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New Mid-Continent Price Schedule Hits Refiners Who Must Pay Premiums

WHETHER or not the time was ripe for an advance in crude oil prices, it has occurred. Led by the Sinclair Crude Oil Purchasing Co., Mid-Continent gravity scheduled prices were advanced 25 cents on Feb. 1. This includes the states of Oklahoma, Kansas and Texas, with the exception of the Gulf Coastal region. Besides, the Gulf Refining Co. advanced the prices on Louisiana and Arkansas crudes, its purchases there not including all the fields.

There has been considerable of a difference in opinion among oil men as to the wisdom of crude price advances, with a large number taking the position that advances early in the year would be unwise. Such was the expressed view of the Standard Oil Co. of New Jersey executives, shortly before the first of this year.

Viewed from the standpoint of crude oil production in the area affected by the new prices, there has been considerable of a change in the situation since the Prairie Oil & Gas Co., on Aug. 27, posted a reduction in price, which was its last change before the advance of Feb. 1. The American Petroleum Institute estimates for Aug. 29 and for Jan. 27, last, are as follows:

District	Aug. 29	Jan. 27
Oklahoma	459,900	442,450
Kansas	111,650	98,400
N. Texas	77,700	78,700
E. Cent. Texas	90,750	63,250
W. Cent. Texas	76,050	75,950
N. Louisiana	49,050	43,900
Arkansas	228,450	182,000
Total	1,093,550	984,650
Decrease		108,900

Affects Skimming Operators

One significant and, to some refiners, startling phase of the new prices is apparent. By the posting of new prices carrying all the way up the gravity scale to the lightest oil produced in the Mid-Continent, the burden has fallen hard on the refiners whose realization from purchased crude is wholly on skimming plant basis. Until the new posting, such refiners were active in the bidding for crude, paying premiums for oil of lighter gravity than that of 44 and above—the point where the Prairie schedule stopped. Now the schedule carries an increase of 8 cents for each additional gravity degree above the old end of the scale. To meet these prices, the refiner must pay all the way from 6 to 9 cents per gallon for crude oil above the 44 degree class, even to meet the Prairie price and, as is well known, the advantage on a flat price is always with the strong company.

Mid-Continent Situation Healthy

If all factors outside the affected area could be disregarded, the advance would not be untimely. Stocks in the Mid-Continent have been reduced since the last previous change in price and production has fallen materially. No field promises to increase the daily output at any near date. Other areas must be considered, however, notably California. In an article following, the view is expressed that little more will be done at present than to seize the occasion to increase California prices to a point commensurate with satisfactory profits. Should the present one be merely the beginning of a series of price raises, there is little doubt, however, that the California material would come in in such quantities as to make Mid-Continent prices untenable.

Sinclair, the leader in the advance, is reported to have been drawing around 18,000 barrels of oil per day from storage to supply its plants and customers while the Prairie has been taking from storage only 8000 to 10,000 barrels. Most of the Prairie's withdrawals were from Texas crude, the Oklahoma situation being about on an even keel.

Sinclair Takes Lead in Price Raise

TULSA, Feb. 1

AT the opening of business today the Sinclair Crude Oil Purchasing Co. advanced all grades of Mid-Continent crude 25 cents per barrel. Before noon the Prairie Oil & Gas Co. met the Sinclair raise and tilted the pot still further by posting eight new grades.

The Prairie now has 25 gradings for Mid-Continent oil, one for each degree of gravity from 28 to 52.

Sinclair quickly called the Prairie's raise and the Gypsy Oil Co., Mid-Continent Petroleum Corp. (Cosden), Kay County Gas Co., (Marland), Empire Gas & Fuel Co. and Texas Co. followed before the close of the day. Gypsy's schedule differs from others in that it posts prices down to 25 gravity following the 8-cent differential.

Magnolia Petroleum Co. posted a price of $1.20 per barrel on crude below 28 gravity, and met the Prairie on the rest of its schedule. Humble Oil & Refining Co. in Texas did not recognize the eight new grades posted by Prairie. It posted a price of $1.08 on crude below 25 and added eight cents for each degree of gravity above.

Advance Was Expected

The advance did not come as a surprise to most operators in the Mid-Continent. Rumors were current every day last week that the price was to be raised the following day. Early in the week the Sinclair Refining Co. raised its price on U. S. Motor gasoline to 10 cents which was above the general level of the Mid-Continent market. This was taken as a sign by many that

the crude market was due for an advance.

Wall Street has consistently looked for a crude advance lately and premium paying by independent refiners had grown to a point which was causing a good deal of comment.

It is thought in many quarters that the Prairie Oil & Gas Co. would have been willing to have let the market go unchanged for a number of weeks yet. While it has been reported generally that the Prairie has been drawing from storage to supply its customers the thought has been that California has been a threat sufficient to cause delay. Sinclair's position is not quite like that of the Prairie in that it does not compete in Eastern seaboard markets as extensively but when Sinclair made the advance naturally Prairie was forced to follow.

Competition at Davenport

The advance in crude may be traced more clearly to the activity of crude buyers in the Davenport field than to any other one factor. Crude in this field has an average gravity of 48 degrees. While some is as low as 44 gravity, there is some oil in the field that tests as high as 52.

Refiners trying to obtain oil in any part of the field have had difficulty. Rather than pay a premium to obtain connections in low or medium gravity crude fields the refiners have gone into Davenport and paid high prices for oil.

Mid-Continent Petroleum Corp. (Cosden) has had a policy for two months or more of paying a premium for crude which it could tie up under three year contracts. This company felt that it could afford to pay a higher price for oil if it could be assured of a supply over a period without the necessity of having to tear out lines, hunt new oil and then put in other gathering lines.

Cosden was not the only important buyer in search of new oil. Pierce Petroleum Corp., Shaffer Oil & Refining Co., Johnson Oil & Refining Co., Champlin Refining Co. and others have been reported as paying premiums.

When the Prairie announced its new prices this morning it passed out the word that it has a number of customers producing oil lighter than 44 degrees. It was indicated that the eight new listings were made to give these customers the full benefit of the quality crude they are selling. The company might have gone on a little further and stated that competition for light crude has been so keen at Davenport that the new grading was as necessary to maintain connections with the best crude as grading itself was in November, 1922, when the gravity schedule was first put into effect.

Undoubtedly the new high gravity grades will work quite a hardship on some of the refiners who have paid premiums of 25 cents per barrel in the Davenport field. For 48 gravity crude refiners will be paying $3.25 per barrel or nearly 8 cents per gallon at the well in cases where they have contracts with a 25 cent premium. This is not far from the price of refined U. S. Motor gasoline. One producer of Davenport crude said today that his oil will now bring him $3.17 per barrel. His oil is running 47 gravity and he has a non-cancellable contract.

The Davenport field is producing around 20,000 barrels of high gravity oil per day. It is the most prolific source of very light oil in Oklahoma. Near Tulsa a well was brought in recently which produces 53 gravity oil. There are a few scattered wells in the Osage producing oil as light as 55 gravity. Garber deep sand oil is about 42 gravity and was thus well within the old schedule. The 6000 barrels of production from the shallow sands is 44 to 46 gravity Tonkawa crude came well within the former schedule.

For the most part refiners in the Mid-Continent were hoping that a crude advance would not come this early. Prices of gasoline can be raised in midwinter but it is quite difficult to hold them up to a profitable level without spring or summer demand. The desire for postponement was largely because of the fact that winter crude price raises in this area have often resulted in soft gasoline markets in the spring and early summer.

Mid-Continent refiners generally raised their gasoline prices a full cent per gallon as soon as crude was advanced. They are looking forward now to an early building up of the tank wagon schedule. If history repeats itself the the tank car gasoline price will absorb for a while at least the entire advance. Refiners are entering the period of high crude prices and low gasoline demand in good condition. Gasoline stocks are far below the level of those maintained at other refining centers. If crude runs to stills can be kept at a low level for the next two months refiners stand a good chance of riding the storm without a spring break in price.

NOTICE

A complete list of crude oil changes covering Monday and Tuesday, Feb. 1 and 2, appears on page 28 of this issue.

Schedule of Mid-Continent Crude Oil Prices

Prairie Oil & Gas Co.

Oklahoma, Kansas, North and Central Texas

Gravity	Aug. 27	Feb. 1
*28-28.9	$1.15	$1.40
29-29.9	1.23	1.48
30-30.9	1.31	1.56
31-31.9	1.39	1.64
32-32.9	1.47	1.72
33-33.9	1.55	1.80
34-34.9	1.63	1.88
35-35.9	1.71	1.96
36-36.9	1.79	2.04
37-37.9	1.87	2.12
38-38.9	1.95	2.20
39-39.9	2.03	2.28
40-40.9	2.11	2.36
41-41.9	2.19	2.44
42-42.9	2.27	2.52
43-43.9	2.35	2.60
44 and above	2.43	
44-44.9		2.68
45-45.9		2.76
46-46.9		2.84
47-47.9		2.92
48-48.9		3.00
49-49.9		3.08
50-50.9		3.16
51-51.9		3.24
52 and above		3.32

*Effective Nov. 1, 1925 Praire announced to its present customers that it would deduct 8c per barrel for every degree below 28 gravity on Mid-Continent and North Texas crude. It posted $1.07 for 27-27.9 gravity, 99c for 26-26.9, etc. New quotations were not added to present schedule inasmuch as Prairie is not in the market for new connections on this low gravity crude.

Way Is Cleared for California Raises

SAN FRANCISCO, Feb. 2

ADVANCES of 25 cents a barrel in Mid-Continent crude prices paved the way Monday for upward readjustments in the California schedule and correspondingly higher prices for Pacific Coast gasoline. It is not on the cards at the present time that territory east of the Rocky Mountains need fear California using it as a dumping ground for cheaply priced material, as the Pacific Coast province now finds itself for the first time since 1923 in position to look ahead for satisfactory profits.

California crude shipments to Atlantic and Gulf ports dropped to the point where they were no longer a market factor in 1925 but financial burdens occasioned by financing and storing Pacific Coast oil the preceding two years forced the liquidation of large quantities of gasoline in Eastern territory.

Now with California sellers talking 10½ cents a gallon for gasoline cargo and this price possibly to be raised it is apparent little material can move in competition with Atlantic seaboard prices recently prevailing around 11½ cents. Transportation costs amount to roundly two cents a gallon for gasoline moved in the intercoastal traffic.

The West coast situation is sufficiently tight that it may be assumed California interests will desire to take full advantage of motor fuel price advances either in their own natural territory or elsewhere.

Undoubtedly California purchasing agencies will follow the Mid-Continent lead shortly with the crude advance necessary to put the Pacific Coast province more in line with reasonable profits than have recently prevailed.

Hangover From 1923

The full burden of financing and storing much of California's 1923 flush oil has not been dissipated despite the shipment of crude that broke the general market in that year and the liquidation

of large quantities of gasoline on the Atlantic seaboard in 1925.

Close study of the Pacific Coast background makes clear the disposition of California petroleum to conserve both their raw material and their finished products for their natural outlets except in times and under conditions such as have prevailed since 1923.

First, it was necessary to ship crude that California interests would have preferred to keep at home as a result of the situation getting out of hand. Later the scaling down of crude shipments in favor of gasoline movement reflected the desirability of converting raw material into finished products in California's own plants at a time when the financial burden had reached the limit of good business.

Now, overall stocks are continuing to pile up, but only the so-called fuel crudes testing below 20 gravity are accumulating in quantity, light crude, distillates and gasoline stocks are in general declining and have been doing so steadily for months.

Crude Is Tightly Held

A purchasing interest recently seeking oil for the Japanese navy was able to obtain only a single cargo at 25 cents a barrel over the field price and the decision to sell this quantity was said to have been a concession made to the buyer.

It is understood without confirmation that a contract for light material which had been made by a dominant California interest with the Standard of New Jersey was recently cancelled by the seller and it has been impossible to check important future commitments, scheduled for 1926 shipment.

Outside of such movement as may be made to Eastern companies of the Standard group it is reported that the Standard Oil Co. (California) has no commitments on either crude or light oil. Shell Co. of California is said to have no contracts entering into the Intercoastal picture and the Union Oil Co. of California is described as having "not much to move." General Petroleum Corp. has been loading some oil for Baltimore destination but the extent of its future movement is minimized without its being definitely measured.

Associated Oil Co. ordinarily requires the greater part of its refinery output for its own extensive distributing facilities and its recent divorce from the Pacific Oil Co. in the deal that resulted in the Standard taking over the last mentioned corporation leaves the Associated in position where its desire will be to continue fortifying reserves rather than to dissipate them on markets outside its own trade territory.

Using Venezuela Crude

Pan-American Western Petroleum Corp. having entered the marketing field extensively on the Pacific Coast will be less a factor in intercoastal shipment than formerly and it is interesting to note that its recent divorcee, the Pan-

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American Eastern Petroleum Corp., is now running the plant of its Mexican Petroleum Corp. subsidiary at Destrehan, Louisiana, on Venezuelan crude.

Much talk was heard around the lobby of the Biltmore at the recent American Petroleum Institute meeting in Los Angeles of the cracking of this material into motor fuel. It was repeatedly suggested, mainly by eastern visitors, that the outcome of cracking installations under way in California would be the manufacture of a vast quantity of material to be dumped on Eastern market.

The California explanation is that cracking installations are both in the experimental and erection stage because far-seeing interests are looking ahead to a future supply of gasoline for Pacific Coast requirements, at a time when light crude stocks are being drawn upon and fresh sources of supply are not plainly visible.

In this connection it is pointed out that such immense light crude reserves as contained in the deeper zone of the West Coyote field and elsewhere are controlled by the Standard or some other interest to the exclusion of competitive drilling operations. The Standard has been a consistent buying and storing interest which inferentially is guarding insofar as it may against repetition of the "gasolineless day" of 1920. Even should the future find cracked gasoline moving from California into Eastern markets it is improbable such a situation could have material effect this year, although a number of plants may be completed late in 1926 it would be too late for them to have appreciable effect. An economic situation that will prove another retarding influence is the refining difficulties involved in cleaning up motor fuel cracked from the types of crude necessary to be used.

Not only has it been recently impossible to buy U. S. Motor specification gasoline in California for shipment to Atlantic and Gulf ports on a competitive basis but grades wanted by European buyers at this time are almost entirely those from 375 to 400 end point, which can be made from California crudes only at great manufacturing expense and the use of perhaps 30 to 35 per cent of raw natural gasoline to bring up specifications. California gasoline made from the lighter of its straight run refinable crudes ordinarily tests about 54 gravity while meeting other U. S. Motor specification.

Natural Gasoline Scarce

Raw natural gasoline demand is stiff and generally the amount available is described as approaching a shortage. Prior to 1923 it was not used extensively in the manufacture of California motor fuel. But since that time its utilization has been growing steadily. Practices differ in that some manufactures blend it with straight-run gasoline and other manufactured motor fuel from a mixture of this material with crude in the pipe line.

Dubbs Interests Start Four More Patent Infringement Suits

CLEVELAND, Feb. 2

THE Dubbs interests have thrown a few more sticks of wood on the fire, thereby causing the cracking patent situation to burn brightly again for a time in the mind of the oil industry.

Last week the Universal Oil Products Co., Chicago, owners of the Dubbs cracking process, filed suits charging infringement of its patent rights against the Gasoline Products Co., New York, owner of the Cross cracking process; the M. W. Kellogg Co., New York, sales and construction agents for the Cross process; the Texas Co., owner and operator of the Holmes-Manley process; the Standard Oil Co. of Indiana, in connection with its use of the Holmes-Manley process; and the Gulf Refining Co., in connection with the operation of its cracking process.

The suits against the Gasoline Products Co. and the Kellogg Co. were filed in New York and charge infringement of 55 claims in 12 patents. That against the Texas Co. was filed in Illinois, where the company operates a refinery at Lockport, and charges infringement of 63 claims in 12 patents; that against the Standard Oil Co. of Indiana at Chicago charging infringement of 63 claims in 12 patents. The suit against the Gulf Refining Co., was filed at Fort Worth, Texas, where the company operates a refinery, charging infringement of 56 claims in 11 patents.

Is Second Move

The filing of these suits is apparently the second move in a general campaign of litigation to establish its cracking patent claims the Dubbs interests inaugurated last fall, when they filed a similar suit against the Skelly Oil Co. early in September in the Wilmington, Del., courts, for its use of the Jenkins process and a little later against the Empire Refineries, Inc., for the use of the Brandt cracking process. Like the suits filed last week these earlier cases did not go into particulars as to the nature of the infringement, leaving this to be brought out in trial of the cases.

These earlier suits followed a move by the Dubbs people in which they used advertising space to set forth their patent claims under which they set up exclusive rights and warned that they would proceed in court against what they deemed were infringements.

The Universal Oil Products Co., in issuing a press statement, added this editorial comment, which appeared in many newspapers, "It is believed in petroleum circles that the adjudication of these suits will tend to clarify the patent situation and permit oil refiners to install and operate cracking processes with greater confidence."

The Gasoline Products Co. is the only one of the present four defendants to issue a statement. President Frederick Osborn said:

"The Universal Oil Products Co., owners of the Dubbs Patents, has brought suit against the Gasoline Products Co. and the M. W. Kellogg Co., in an effort to restrain them from licensing the Cross cracking process to American refiners. This suit follows upon six others, some old and some very recently brought, attacking the right of refiners to operate any of the well known and widely used cracking processes without paying royalty to the owners of the Dubbs patents.

"The Gasoline Products Co. feels no doubt whatever as to the essential strength of the patent position by which the Cross process has been protected from the earliest stages of its development by Drs. Walter and Roy Cross, commencing with their earliest experiments in Kansas City many years ago, their development of a commercial installation first used by the Indian Refining Co. in 1919, and in the various refinements and improvements now used in large commercial installations all over the United States.

"This action on the part of the Dubbs interests is the natural conclusion to an endeavor upon their part to cover the operation of all important cracking processes by the manipulation of a patent structure.

"We feel that the attack against the Cross process is particularly unwarranted, because of the fundamental differences known to exist between the Dubbs and Cross processes with which refiners are already familiar. We have always felt that the interests of the industry could best be served by developing the Cross process to its highest point of technical perfection, securing agreement wherever possible with competitive processes to assure freedom from litigation to our licensees, and leaving the refiner to select the process best adapted to his needs upon the basis of cost and performance. The industry may rest assured that we have not failed to secure the integrity of our position against such an attack as has now been brought—the suit will be vigorously contended."

S. O. Ohio Advanced Light

CLEVELAND, Feb. 2.—Standard Oil Co. of Ohio will advance tank wagon prices of all light oils, including gasoline, 1 cent tomorrow, Feb. 3. New Ohio tank wagon price will be 21 cents and service station 23 cents, both including 2-cent state tax. Kerosene will be 15 cents tank wagon and 17 cents service station. Varnolene and V. M. & P. naphtha will be 21½ cents each at tank wagon. No. 1 furnace oil, 39 gravity, light, will be 11 cents and No. 2, 34 gravity, dark, will be 10½ cents.

Injunction Stops Use of Gas to Flow Smackover Wells After Bitter Fight

By A. F. Hinton
N. P. N. Staff Writer

EL DORADO, ARK., Feb. 2 UNDER terms of a blanket injunction issued by Chancellor George M. Le Croy in the second division chancery court here, oil operators in the Smackover field are forbidden henceforth to use natural gas from one sand as an artificial expulsion agent for the removal of oil or water from another sand.

The injunction came as the result of a suit brought by the state against certain oil companies, and followed an extremely bitter court fight lasting four days, in which oil men were arrayed against each other, some on the side of the state, and some valiantly opposing the proposed injunction.

So divergent are the opinions expressed as to the effect of the injunction on Smackover production, depending upon whether information is sought from proponents or opponents of the move, that it is impossible to state definitely just how much production loss there will be under the new conditions. It can be safely said, however, that the injunction marks a very important development in the field's progress, and there is little doubt that it will result in a substantial decline in production for the time being, at least.

Field Under Water

Rumors current in Tulsa last week were to the effect that Smackover production would be reduced something like 50 or 60 per cent by the ruling and that fuel oil prices would be greatly strengthened as a consequence. After investigating as fully as possible and talking to a number of men on both sides of the question, the writer is convinced that the immediate result of the ban on the use of gas for flowing wells will be negligible as compared with the field's total. It is perhaps well to note here that when the writer was assembling data for this article, something like 500 Smackover wells were under water and shut down on account of flood conditions in the region, and that this undoubtedly will result in a marked falling-off in the field's output, possibly to the extent of 20,000 barrels a day. This decline, coming immediately after granting of the injunction as to the use of gas in flowing wells, might therefore be erroneously attributed to that cause, if true conditions in the field were not known.

In bringing suit asking for the injunction, the state alleged that 28 wells were being blown with gas contrary to law, and named five companies who were resorting to this practice. One operator said that, judging from the fact that the state's conservation agents never operated at more than 20 per cent efficiency, it was reasonable to assume that at least five times that many wells actually were being blown with gas, and that considerably more than the five companies named had been indulging in the practice. The five companies named in the suit were Lion Oil & Refining Co., Natural Gas & Fuel Co., Magna Production Co., Unity Petroleum Co., and Woodley Petroleum Co. The combined daily average production of these companies during December was about 14,600 barrels daily, as compared with some 180,000 barrels for the field as a whole.

Most of the other principal operators in the field apparently were on the side of the state, taking the stand that the gas from the Blossom sand should be conserved as much as possible for the future good of the field as well as of the public which is now using the gas for domestic fuel. In order to explain the ardor of these companies on the side of state enforcement of conservation laws, it is necessary to go back a little way into the history of these laws in Arkansas.

The Arkansas regulations governing oil and gas field operations and enacted into law by the legislature, were written by oil men, and are said to be the best set of regulations now extant, having been drawn up by taking the best features from similar regulations of other oil-producing states. They were written by the advisory board of the Arkansas Petroleum Club, which is an influential body of oil men, and which desired that conservation principles be made into law in order that the development of Smackover and future fields should proceed along efficient and conservative lines.

State Makes it Political

These men provided for enforcement of the law by naming suitable salaries and stipulating certain necessary experience qualifications for conservation officers in the field. In enacting the rules into law, however, salaries to be paid the conservation officers were reduced under the guise of the economy administration now in vogue, and the experience qualification was thrown out altogether. Thus when the appointments were made, they were political in nature, just as similar appointments have been in Oklahoma in recent years, with the result that the field men know nothing of the oil business. This has resulted in the law itself becoming practically a dead issue, with violations being the rule rather than the exception. Oil men say, in fact, that the only clause of the law that has been enforced is the collection of $50.00 for each drilling permit granted, that these collections have amounted now to about $172,000 and that the industry has received nothing for its money.

It is not clear whether the recent injunction suit was initiated by the state or by the advisory board mentioned above, but it is a fact that members of the advisory board assisted the state throughout the trial, thus bringing about the lining up of influential oil men on both sides of the question. These men state, however, that they were acting only as members of the advisory board and not as representatives of their companies in the trial. It happens that most of the members of the advisory board are representatives of big companies, and its membership represents, it is said, about 50 per cent of Smackover production.

Large Number of Wells

The principal oil-producing horizon in Smackover is the Graves sand, found at about 2400 feet. In this formation, 711 wells were producing 108,000 barrels daily last week. About 100 feet below the Graves is the Blossom sand, the field's most recently-discovered sand, which carries high-pressure gas in its upper portion and oil in its lower portion. Up to last week, 191 wells had been drilled into the Blossom sand. Of these, 103 were making 12,330 barrels of oil daily with large quantities of gas, while 86 were making dry gas only. It is estimated that the total open-flow gas capacity of these 191 wells is 2.76 billion cubic feet daily. The field's first producing sand, the Nachatoch, found at around 2000 feet, has 1302 wells producing 33,665 barrels daily.

Owing to the fact that the Graves sand wells make large amounts of water along with the oil, producing them economically has been a problem, as it is in all fields where similar conditions exist. To keep them flowing as long as possible is naturally the aim of all operators. This has resulted in the use either of compressed air or gas as an expulsive agent to take the place of the depleted natural pressure in the sand itself. The Blossom sand brought out the gas in quantity and the temp-

tation was very strong to use it for flowing the Graves sand wells, regardless of state conservation regulations to the contrary.

The contention of those who have been using Blossom sand gas to flow their wells is that it is being dissipated underground through faulty completions, bad casing-seats and the like, that it will be impossible to conserve it for future use, and that it might as well be doing some useful work as long as it lasts. It is admitted that the gas was blown off into air from the mouth of each well in which it had been used to cause it to flow.

An Opposing View

Those on the other side of the argument contend that there have been no bad completions in the Blossom sand and that if the gas is properly conserved and used only as fuel, it will last at least five years. They contend also that compressed air will flow the wells satisfactorily. They point out that gas pressure in the upper sands was wasted and dissipated, that Providence has come to the rescue of the field with the gas in the Blossom sand, and that, as far as known, it is the last producing horizon to be expected in the field. Therefore, it should be saved and used economically. This view prevailed with the court, who based his decision solely on the fact that the law was being violated, on admission of defendant companies that they had been using gas to blow their wells.

As far as the use of compressed air is concerned, it is pointed out by those who have been using gas that each installation of a compressor unit costs something like $11,000, that this equipment would be "dead-wood" when the time came that the wells no longer responded to the treatment, and that the use of air tends to emulsify the already badly cut oil, making it even harder to handle than normally. In using gas, which apparently mingles with the oil instead of churning it, they contend that the gravity of the crude is raised something like one degree, is easier handled, and more readily separated from the water.

However, all this is water gone past the mill, as the law says gas can't be used any more, and everybody certainly intends to obey the law. Under the decision as rendered by the court, the use of gas to blow wells must cease immediately, except in the cases of those wells not having standard rigs over them. Companies were given a reasonable time to get these wells in shape so that they could be produced by other means than with gas, and probably within 10 days from the time the decision was rendered Jan. 23, no gas will be in use against the peace and dignity of the state of Arkansas.

Although it is not now being done in the best circles, one company kept records of its well performances before and after it started using Blossom sand gas as an aid to production, and gave the writer permission to use some interesting figures. These figures show that if it were not against the law, and if there were some way of saving the gas after it had done its duty in the wells, great savings in production costs can be made by the gas-flow method. This company's records showed that on one property the total production over a month before beginning the use of gas was 23,600 barrels, with a lifting cost of 15.39 cents per barrel. During the next month, when high-pressure gas was being used, the same property produced 42,780 barrels, at a lifting cost of 8.84 cents. In other words, the production was increased 55 per cent and lifting costs were decreased 58 per cent.

Another property produced 13,590 barrels at a lifting cost of 39 cents a barrel before using gas, as against 37,530 barrels at a lifting cost of 14.57 cents while using gas. Still another produced 17,540 barrels before and 41,870 barrels after, with lifting costs of 24.3 cents and 13.27 cents, respectively. In all of these figures, the value of the gas used is of course included in the lifting cost.

This company used an average of 8,360,000 cubic feet of gas daily in blowing its wells, over the period June 15, 1925 to Jan. 15, 1926. Total gas used in this way in that time was 784 million cubic feet, and total oil production in the same period was 466,900 barrels. Figuring the gas at 3 cents a thousand, which apparently is the regular price for it at Smackover, the company points out that it used gas to the value of $23,538 to produce oil worth, at 85 cents a barrel, $397,065. In other words, the value of the gas used was 6 per cent of the value of the oil produced by its use.

Prosecution of the injunction hearing was in charge of John L. Carter, assistant attorney general, and his associate, Brooks Hays, both of whom represented the state department of conservation and inspection. Walter L. Brown, prosecuting attorney of the El Dorado district, assisted the state lawyers. Also on the prosecution side was the Camden, Ark. firm of Gaughan & Sicord, prominent attorneys. Joseph B. Elam, secretary of the Louisiana-Arkansas division of the Mid-Continent Oil & Gas Association, also was on hand to assist the state, as the association has long desired to see the conservation laws enforced. Prominent at the elbow of the prosecution counsel during the trial was Col. W. C. O'Ferral, superintendent for the Standard Oil Co. of Louisiana, chairman of the advisory board of the Arkansas Petroleum Club, and director of the El Dorado Chamber of Commerce, which was interested in the conservation of the city's domestic gas supply.

A House Divided

The defendants delivered an unexpected coup by engaging as their attorney Joe K. Mahony, of the firm of Mahony, Yocum & Saye, one of the best-known attorneys in Arkansas, and a man who has been intimately identified with the oil developments of that state since the Busey well came in, which marks the beginning of things petroliferous in Arkansas. Thus there was presented the strange spectacle of Mahony, who, among his many other oil connections, is counsel for the advisory board of the Petroleum Club, opposing Colonel O'Ferral, who is chairman of that board and vice-president of the club. The principal figure on the defense side was Victor F. Smith, vice-president of the Lion Oil & Refining Co., and president of the Arkansas Petroleum Club.

Mr. Mahony subjected Colonel O'Ferral to a gruelling cross-examination enduring through four hours, in which considerable feeling was engendered on both sides. There is a reason for this, it is said, as Mr. Mahony is a candidate for United States Senator, and it will not hurt him any with the people of Arkansas to have thus fought the Standard Oil "octopus" in its lair. His partner, Mr. Saye, who also took part in the case, asked the court to consider "whether the suit had been started with the interests of the people at heart or had been instigated by the Standard Oil Co. Your honor is aware," he said, "that throughout this trial, a representative of the Standard Oil Co. has sat at the elbow of the state's attorneys and dictated their policies."

The trial lasted four days and was bitterly fought all the way, but it's all over now, and the Blossom sand gas has either been saved for posterity or has been liberated to dissipate itself in its devious underground channels, according to the way you look at it.

Coming Meetings

Iowa Independent Oil Men's Association, Hotel Ft. Des Moines, Des Moines, Ia., Feb. 9, 10.

Ohio Petroleum Marketers Association, New Neil Hotel, Columbus, O., Feb. 11, 12.

Georgia, Alabama and Florida jobbers to meet to organize association, Hotel Ansley, Atlanta, Ga., Feb. 15, 16.

Wisconsin Independent Oil Jobbers Association, Hotel Lorraine, Madison, Wis., Feb. 17.

American Institute of Mining and Metallurgical Engineers, New York City, Feb. 15, 16, 17, 18.

Western Petroleum Refiners Association, Texas Hotel, Fort Worth, Tex., March 2, 3, 4.

National Petroleum Marketers Association, Congress Hotel, Chicago, April 6, 7, 8.

Petroleum Division, American Chemical Society, Tulsa, April 5, 6, 7, 8, 9.

Critics of Report On Petroleum Will Appear Before Oil Board

NEW YORK, Feb. 2

MEETING informally at the American Petroleum Institute offices here today, members of the Committee of Eleven on Petroleum Supply and Demand went over the official program for the Federal Oil Conservation Board's open hearings in Washington Feb. 10 and 11, which was announced Feb. 1.

Charles Evans Hughes, who was selected at the recent meeting of the Institute in Washington to represent it before the federal oil board, was not present with members of the committee. It is definitely understood that he will not be present at the public hearings in Washington, because of previously being under engagement to argue cases before the U. S. Court of Appeals in Cincinnati, and the oil board being unwilling to accede to his request for a postponement of the open hearings on the subject of future petroleum supplies and conservation of this natural resource.

Because of the formal nature of the program for the open hearings at Washington, it was generally felt that the services of Mr. Hughes would not be necessary there. It was believed that any suggestions the oil board may draw up concerning any phases of the industry for its report to President Coolidge, particularly if those suggestions embody any change in its method of operations on the part of the industry will have to be worked out in conferences between the board and members of the industry following the open hearing next week.

May be Needed Later

Such conferences may take up suggestions and views expressed both within and outside the industry at the coming open hearings. But it is when and if the oil board attempts to prescribe a future course of action for the industry to follow that the services of Mr. Hughes will be most needed, in at least holding the board to suggestions or recommendations that will be entirely legal in nature.

Secretary Work, chairman of the board, left the door open for such future conferences in his reply to Mr. Hughes's letter asking for a continuance of the hearing scheduled for Feb. 10th, by saying that the board would be glad, if it is desired, to reopen the hearings at a later date, preferably within 30 days after the close of the scheduled meetings, "when both the board and yourself (Mr. Hughes) will have at hand for discussion more definite, concrete data than can be assembled previous to the hearings scheduled for the second week in February."

The nature of the program announced for the hearings next week, which are to be held in the Auditorium of the Department of the Interior Building, shows a considerable effort has been made by the board to interest the public in the open hearings. John D. Rockefeller, Jr., who was probably looked upon by the board as the best drawing card for the general public, is not upon the official program issued yesterday. When his name was first announced, because of his limited experience in the oil industry, it was thought he was included on the program to attract general attention.

Movies at Night

However, if Mr. Rockefeller is not to be on the program, at any rate there are moving pictures on both evenings; and the talks to be given include such a great variety of subjects that it is hard to see where anything very concrete can come out of the hearings. Secretary Work is to preside at the morning and afternoon sessions the first day. Secretary of War Davis is to preside in the evening. Honors are divided the next day, Secretary of Commerce Hoover presiding in the morning, Secretary of the Navy Wilbur in the afternoon and the oil industry having its inning the last evening, when W. F. Farish, the new president of the American Petroleum Institute, is to act as chairman.

There are some surprises in the list of speakers who are on the program in addition to those who it was previously announced had been asked to speak For example, the evening of the second day Karl C. Schuyler, of Denver, is on the program, no topic for discussion having been assigned him. Mr. Schuyler was general counsel for the Midwest Refining Co. for some time prior to 1919. He was a witness in the investigation upon leases upon naval oil reserves conducted by the Senate committee on Public Lands and Surveys early in 1924, testifying in response to his previous intimation to the committee that he desired to make a statement. He testified and was questioned at length regarding a claim for title of John Leo Stack in the Teapot Dome properties secured by Harry F. Sinclair for the Mammoth Oil Co.

Another speaker scheduled for the same evening, with no assigned topic, is R. H. Smith, president of the Oklahoma Co., Philadelphia, operating producing properties in Seminole and Pontotoc counties, Okla.

Oliver, Requa, Doherty to Speak

Also appearing on the program, although his name was omitted when the first list of speakers was sent out, is Earl Oliver, now an independent operator of Ponca City, formerly in charge of producing operations in Mexico for the Maryland interests, who was the first man within the industry to publish his views in criticism of the report of the Committee of Eleven made to the federal oil board last summer. Another open critic of the committee's report, Mark L. Requa, is to speak on the topic the Oil Industry's Opportunity. Henry L. Doherty, head of the Henry L. Doherty & Co., active in the oil and gas field as well as operating public utilities, who is regarded by many as largely responsible for the creation of the Federal Oil Conservation Board in the first place, is to speak on "Conservation of Oil and Gas by Controlling Gas Pressure" at the morning session the first day. Mr. Doherty for some time has been publicly urging the cooperative development of oil properties in the interests of conservation of oil and gas. The complete program is as follows;

Details of Program

Feb. 10, Morning, Secretary Work presiding: A. L. Beaty, president The Texas Co., "Opportunity for State Legislation in aiding Oil Conservation"; W. C. Teagle, president Standard Oil Co. of New Jersey, "Economical Use of Petroleum Products"; Mr. Doherty, "Conservation of Oil and Gas by Controlling Gas Pressure." Open forum.

Afternoon; Secretary Work presiding: C. F. Kettering, president General Motors Research Corp., "How Soon Can We Expect More Ton Miles per Gallon"; George S. Davison, president Gulf Refining Co.; "Possible Changes in Refining and Marketing Practices"; J. O. Lewis, consulting petroleum engineer, "Rejuvenation of Depleted Fields." Open forum.

Evening, Secretary of War Davis presiding: Speakers to be announced. Bureau of Mines motion pictures of the oil industry.

Feb. 11, morning, Secretary Hoover presiding: J. Edgar Pew, past president American Petroleum Institute, "The Oil Industry's Public Relations"; T. O'Donnell, California Petroleum Co., "How Neighbors Should Cooperate." Mr. Oliver. Open forum.

Afternoon, Secretary Wilbur presiding: Mark L. Requa, mining engineer, "The Oil Industry's Opportunity"; L. V. Nicholas, president National Petroleum Marketers Asso., "Whether Consumers are Best Served in the Present System of Transportation and Distribution of Oil Products." Open forum.

Evening, W. F. Farish, president American Petroleum Institute, presiding: Bureau of Mines motion pictures of the oil industry. Karl C. Schuyler, Denver; R. H. Smith, Oklahoma Co., Philadelphia.

Type A

Type No. 24

Standardize on One of These Two Tank Faucets

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Wheaton

Compilation Of Mid-Continent Refinery Operations

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Stocks of Heavy Oils Drawn On; Light Goods Accumulate

Special Wire Service

TULSA, Feb. 2.

CRUDE runs at 124 Mid-Continent refineries were reduced 4000 barrels on the daily average in the week ended Jan. 29, according to reports gathered by National Petroleum News. Runs for the week averaged 248,650 barrels per day. This is almost identically the same scale of operations as at the same time a year ago.

With the exception of kerosene all heavy oil stocks were drawn on as has been the case in recent weeks. Kerosene shipments were only about 178,000 gallons below the level of production despite the fact that refiners are enlarging their kerosene cuts as a result of the scarcity of that product and the better market prices. During the week ended Jan. 29, for example, the 124 refineries increased their production of kerosene 525,000 gallons in spite of the fact that they reduced their crude runs.

In the four weeks ended Jan. 29 this group of refiners cut stocks of kerosene 2,177,713 gallons, distillates 5,624,786 gallons, and gas oil 5,307,540 gallons. Fuel oil stocks increased 1,017,596 gallons. During the week under review fuel oil stocks were cut only 100,000 gallons but gas oil stocks were cut 2,000,000 gallons.

Gasoline stocks increased 5,500,000 gallons to a total of 83,156,281 gallons. At the rate of shipment maintained during the week gasoline stocks represented 23 days' supply.

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Jan. 29. Change in stocks figured from Jan. 2.

	Gallons
Gasoline	
Production	120,992,558
Shipments	102,092,926
Net change in stocks	+18,899,632
Ratio sales to production	84.4%
Kerosene	
Production	21,114,558
Shipments	23,292,271
Net change in stocks	—2,177,713
Ratio sales to production	110.3%
Stove Distillate	
Production	6,400,624
Shipments	11,825,410
Net change in stocks	—5,424,786
Ratio sales to production	184.8%
Gas Oil	
Production	24,571,414
Shipments	29,878,954
Net change in stocks	—5,307,540
Ratio sales to production	121.6%
Fuel Oil	
Production	109,663,261
Shipments	108,645,665
Net change in stocks	+1,017,596
Ratio sales to production	99.1%

Mid-Continent Refinery Operations Week Ended Jan. 29 (By Fast Wire)

	Kansas	%Change Previous Week	Oklahoma	%Change Previous Week	No. & Cent. Texas	%Change Previous Week	No. La.-Ark.	%Change Previous Week	Total	%Change Previous Week	Totals Week Ended Jan. 29
Plants reporting	23		46		41		14		124		124
Da. Cap. (Bbls.)	98,200		165,900		144,300		51,700		460,100		460,100
Da. Av. Crude Run.	49,709	— 0.9	102,861	— 2.6	57,286	— 0.6	38,794	— 0.3	248,650	— 1.4	249,138
Da. Av. Other Oils	4,387	—27.4	1,947	.....	4,464	+31.4	—226	.....	10,572	+24.2	3,400
GASOLINE—Gallons											
Stocks Jan. 22	12,950,639		44,785,508		16,028,249		3,772,956		77,537,352		61,568,003
Prod. 1-2 to 1-29	7,521,263	— 6.9	14,159,618	+ 2.5	6,475,305	+ 6.6	2,494,269	— 8.5	30,650,455	— 0.1	29,156,478
Ship. 1-22 to 1-29	7,467,768	+ 8.9	10,116,656	+ 1.6	5,357,178	—16.1	2,089,924	—15.8	25,031,526	— 2.6	26,467,832
Stocks Jan. 29	13,004,134	+ 0.4	48,828,470	+ 9.0	17,146,376	+ 7.0	4,177,301	+10.7	83,156,281	+ 7.2	64,256,649
Ratio Sales to Prod.	99.3%		71.4%		82.7%		83.8%		81.7%		90.8%
KEROSENE—Gallons											
Stocks Jan. 22	1,676,490		4,950,757		1,128,856		432,918		8,189,021		10,934,205
Prod. 1-22 to 1-29	1,443,529	+15.5	2,316,771	+ 1.3	1,437,106	+27.7	503,427	— 1.7	5,700,833	+10.2	5,101,155
Ship. 1-22 to 1-29	1,689,083	+ 1.1	2,276,110	+16.4	1,038,654	—14.2	518,850	+32.5	5,522,697	+ 5.6	5,490,490
Stocks Jan. 29	1,430,936	—14.6	4,991,418	+ 0.8	1,527,308	+35.3	417,495	— 3.6	8,367,157	+ 2.2	10,544,870
Ratio Sales to Prod.	117.0%		98.2%		72.3%		103.1%		96.9%		107.6%
STOVE DISTILLATE—Gallons											
Stocks Jan. 24	2,518,182		7,435,507		1,135,910		59,514		11,149,113		16,239,154
Prod. 1-22 to 1-29	753,526	+13.2	658,019	+24.7	261,855	+10.0	22,302	—20.6	1,695,702	+16.2	1,692,621
Ship. 1-22 to 1-29	846,162	— 6.7	1,853,725	+40.2	596,204	+211.4	38,766	+615.5	3,334,857	+37.5	2,997,031
Stocks Jan. 29	2,425,546	— 3.7	6,239,801	—16.1	801,561	—29.4	43,050	—27.7	9,509,958	—14.7	14,934,733
Ratio Sales to Prod.	112.3%		281.7%		227.7%		173.8%		196.7%		177.1%
GAS OIL—Gallons											
Stocks Jan. 22	4,490,442		30,794,298		11,112,373		6,288,606		52,685,719		55,869,333
Prod. 1-22 to 1-29	1,288,981	—11.8	3,098,774	+31.4	533,370	+14.1	2,107,868	+ 5.2	7,028,993	+11.7	5,416,124
Ship. 1-22 to 1-29	2,142,110	+41.6	2,358,229	—31.4	2,410,482	+ 6.5	2,107,572	+ 4.5	9,018,393	— 2.3	5,281,598
Stocks Jan. 29	3,637,313	—19.0	31,534,843	+ 2.4	9,235,261	—16.9	6,288,902	+0.004	50,696,319	— 3.8	56,003,859
Ratio Sales to Prod.	166.2%		76.1%		451.9%		99.99%		128.3%		97.5%
FUEL OIL—Gallons											
Stocks Jan. 22	12,167,117		52,215,639		24,916,956		15,588,651		104,888,363		101,691,366
Prod 1-22 to 1-29	5,090,789	+ 5.0	7,469,473	—12.2	7,999,930	— 3.9	5,693,936	— 6.1	26,254,128	— 5.4	27,060,943
Ship. 1-22 to 1-29	5,550,508	+27.3	7,905,556	—26.7	7,246,793	— 5.1	5,667,419	— 5.8	26,370,276	— 8.4	24,997,690
Stocks Jan. 29	11,707,398	— 3.8	51,779,556	— 0.8	25,670,093	+ 3.0	15,615,168	+ 0.2	104,772,215	— 0.1	103,754,619
Ratio Sales to Prod.	109.0%		105.8%		90.6%		99.5%		100.4%		92.4%

Crude Production by Districts

Daily average gross crude output of United States, by fields, for week ending with dates given below, as compiled by American Petroleum Institute

National Petroleum News

OKLAHOMA

	Jan. 30	Jan. 23
North Braman	2,650	2,150
South Braman	9,050	9,050
Blackwell	3,200	3,050
Hubbard	2,200	2,050
Thomas	14,900	13,750
Tonkawa	44,350	45,000
Garber	22,250	23,050
Burbank	42,200	44,050
Osage, outside Burbank	32,800	32,250
Watchorn	3,000	1,800
Cushing	22,650	22,600
Yale Jennings	11,500	11,500
Davenport	20,200	21,250
Bristow-Slick	31,150	31,350
North Okmulgee	18,600	18,450
Lyons-Deaner	4,300	4,300
Stroud	2,700	2,800
Cromwell	19,450	19,750
Papoose	13,000	11,550
Wewoka	13,800	12,900
Duncan district	7,450	7,450
Graham	9,150	9,100
Fox	3,900	4,050
Healdton	14,950	14,950
Hewitt	12,800	12,850
Others	61,200	61,300
Total Oklahoma	443,400	442,450
Increase		950

KANSAS

	Jan. 30	Jan. 23
Florence-Covert	1,950	1,900
Peabody-Elbing	4,850	4,850
Eldorado-Towanda	14,200	14,150
Augusta-Fox-Bush	4,950	5,000
Rainbow Bend	5,100	5,750
Russell	5,500	5,600
Others	62,500	61,150
Total Kansas	99,050	98,400
Increase		650

NORTH LOUISIANA

	Jan. 30	Jan. 23
Homer	5,700	5,750
Haynesville	11,400	11,400
Caddo, heavy	2,350	2,450
Caddo, light	8,250	8,450
De Soto, Red River	3,850	3,850
Elm Grove	600	600
Bellevue	2,200	2,250
Cotton Valley	8,100	8,450
Others	950	700
Total North Louisiana	43,400	43,900
Decrease		500

ARKANSAS

El Dorado	7,450	7,400
Smackover, light	18,750	19,350
Smackover, heavy	130,000	151,950
Stephens	1,700	1,700
Nevada	1,600	1,600
Total Arkansas	159,500	182,000
Decrease		22,500

SOUTHERN TEXAS

Luling	20,000	20,300
Mirando	6,200	6,200
Somerset	2,250	2,250
Lytton Springs	7,450	7,850
Others	800	850
Total Southwest Texas	36,700	37,450
Decrease		750

GULF COAST

Goose Creek	8,750	8,700
Hull	14,200	14,850
Saratoga	1,250	1,250
Blue Ridge	750	800
Damon Mound	1,050	1,050
Baston	950	950
West Columbia	9,350	9,200
Humble	4,700	4,750
Pierce Junction	1,150	1,250
Sour Lake	5,150	5,300
Spindletop	6,450	6,350
Orange County	13,600	13,800
Edgerly	600	650
Evangeline	1,050	1,050
Vinton	6,600	6,600
Lockport	1,850	2,150
South Liberty	7,350	7,700
Big Creek	900	950
Boling	4,550	4,650
Others	1,050	1,050
Total Gulf Coast	91,300	93,050
Decrease		1,750

NORTH TEXAS

	Jan. 30	Jan. 23
Burkburnett	12,600	12,600
Electra	16,350	16,700
Iowa Park and K-M-A	5,400	5,350
Wilbarger	10,900	11,400
Panhandle	2,300	1,800
Petrolia	400	400
Others	800	...
Archer County	29,200	29,600
Total North Texas	77,950	78,700
Decrease		750

EAST CENTRAL TEXAS

Mexia	14,100	13,850
Currie	1,100	1,050
Richland	2,550	2,550
Corsicana-Powell	32,200	33,700
Wortham	11,900	12,100
Total East Central Texas	61,850	63,250
Decrease		1,400

WEST CENTRAL TEXAS

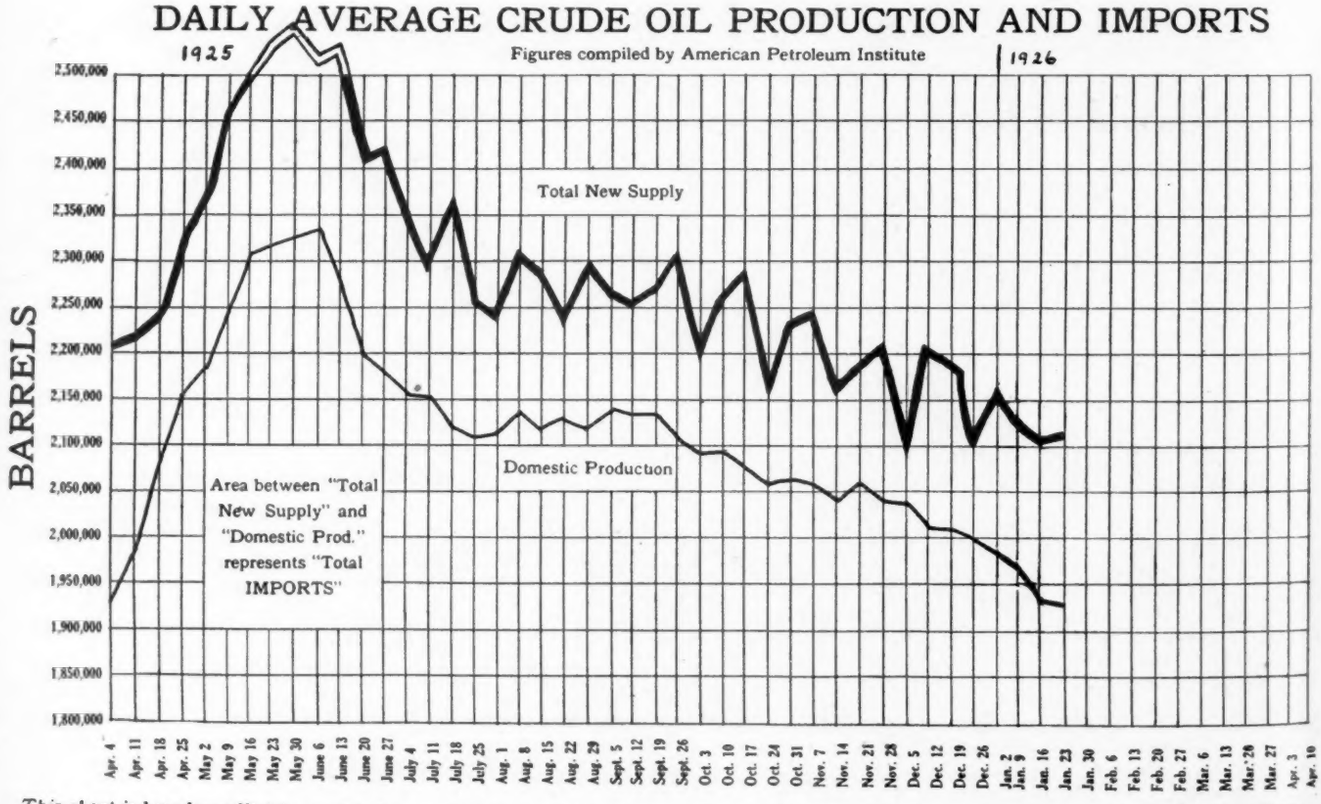
Stephens County	12,650	12,850
Eastland County	6,100	6,200
Desdemona	2,000	2,050
Young county	8,350	8,950
Palo Pinto County	400	400
Callahan County	4,350	4,700
Shackelford County	2,250	2,300
Reagan County	31,300	33,750
Others	4,650	4,750
Total West Central Texas	72,050	75,950
Decrease		3,900

ROCKY MOUNTAIN WYOMING

Salt Creek	54,750	57,450
Grass Creek	2,750	2,800
Elk Basin	600	600
Big Muddy	3,250	3,400
Lost Soldier	3,650	4,600

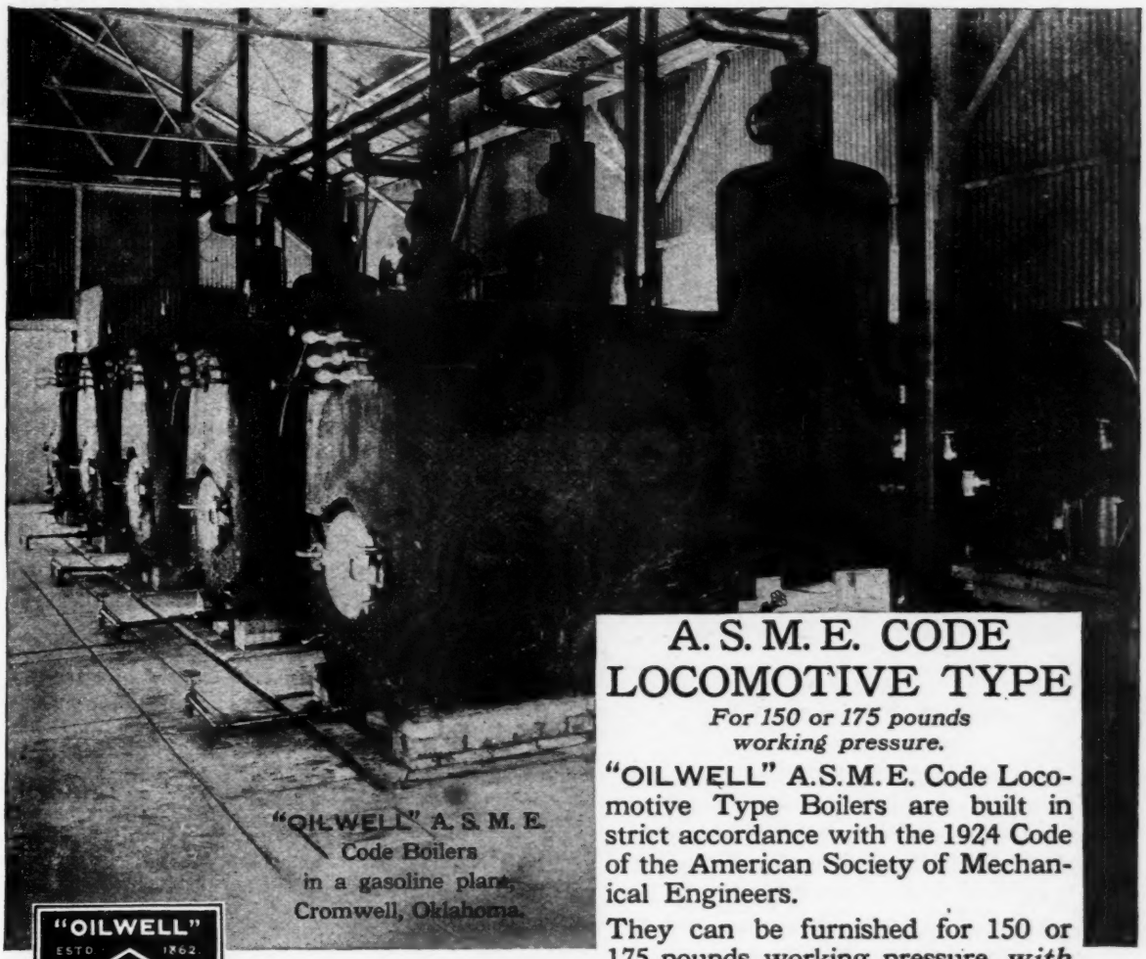
DAILY AVERAGE CRUDE OIL PRODUCTION AND IMPORTS

Figures compiled by American Petroleum Institute



This chart is based on official complete figures of A. P. I. and is a week older than the production estimates given in regular tabular form above.

"OILWELL" BOILERS



"OILWELL" A. S. M. E. Code Boilers in a gasoline plant, Cromwell, Oklahoma.

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A. S. M. E. CODE LOCOMOTIVE TYPE

For 150 or 175 pounds working pressure.

"OILWELL" A. S. M. E. Code Locomotive Type Boilers are built in strict accordance with the 1924 Code of the American Society of Mechanical Engineers.

They can be furnished for 150 or 175 pounds working pressure, *with dome located either over the wagon-top or over the barrel.* Also either mounted or unmounted.

"OILWELL" Boilers are also built in A. S. M. E. Horizontal Tubular, Regular Oil Country Locomotive, Canadian Locomotive and British India Locomotive types.

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OIL WELL SUPPLY CO.

NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Rock River	3,100	3,050
Teapot Dome	1,350	1,150
Others	4,550	4,650
Total Wyoming	74,000	77,700
Decrease		3,700
MONTANA		
Cat Creek	3,100	3,100
Sunburst	9,100	9,050
Total Montana	12,200	12,150
Increase		50
COLORADO		
Moffat (Craig)	2,900	3,050
Fort Collins	2,100	2,050
Florence	400	400
Others	400	350
Total Colorado	5,800	5,850
Decrease		50
NEW MEXICO		
Artesia	3,500	3,300
Hogback	500	500
Rattlesnake	200	200
Total New Mexico	4,200	4,000
Increase		200
Total Rocky Mountain	96,200	105,650
Decrease		9,450
CALIFORNIA		
Santa Fe Springs	49,000	50,000
Long Beach	112,000	112,000
Huntington Beach	45,500	46,000
Torrance	30,000	31,000
Dominguez	23,000	23,000
Rosecrans	23,000	23,000
Inglewood	55,000	55,000
Midway-Sunset	92,000	92,000
Others	182,500	181,000
Total California	612,000	613,000
Decrease		1,000
EASTERN		
(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	100,000	100,500
Decrease		500
PRODUCTION SUMMARY		
Production east of Rockies	1,281,400	1,315,350
Decrease		33,950
Total Production in U. S.	1,893,400	1,928,350
Decrease		34,950

Production of Crude Oil and Stocks Decline

CLEVELAND, Feb. 2.—Production of crude oil declined 89,364 barrels on the daily average in December to 1,965,903 barrels, according to preliminary statistics just issued by the Bureau of Mines. December production totaled 60,943,000 barrels. Pipe line and tank farm stocks of crude east of California on Dec. 31 were 292,288,000 barrels, a decline of 4,402,000 barrels from Nov. 30 stocks.

Gasoline output in December totaled 934,549,000 gallons, a daily average of 30,146,742 gallons, as compared with 30,735,266 gallons daily average in November. Stocks on Dec. 31 were 1,648,328,000 gallons, a gain of 58,448,000 gallons during December.

Kerosene production was 223,780,000 gallons, a daily average of 7,218,709 gallons, as compared with 7,088,833 gallons daily average in November. Stocks on Dec. 31 were 299,190,000 gallons, a decline of 15,364,000 gallons from Nov. 30 stocks.

December production of lubricating oils totaled 113,857,000 gallons, a daily average of 3,672,806 gallons as compared with 3,682,233 gallons in November. Stocks on Dec. 31 were 305,203,000 gallons, an increase of 11,291,000 gallons in December.

Fuel and gas oil production totaled 1,298,045,000 gallons, a daily average of 41,872,419 gallons, as compared with 40,992,366 gallons in November. Stocks on Dec. 31 east of California were 1,036,619,000 gallons.

Week's Crude Price Changes

Jan. 26.—Louisiana Oil Refining Corp. announced its initial posting of $1.50 per barrel on Urania, La. crude. The company is building a loading rack and gathering system in the new field.

Feb. 1.—Prairie Oil & Gas Co. advanced Oklahoma, Kansas, North and Central Texas crude 25 cents per barrel at the well on all gravities covered by its schedule posted Aug. 27, 1925 when the last previous change was made. The advance applied on grades beginning with 28 to 28.9, up to and including 44 to 44.9 gravity. It also added 8 new grades up to 52 and above, with 8 cents additional for each full degree after 44.9 gravity. Minimum price is $1.40 on 28 to 28.9 and maximum price is $3.32 on 52 and above. (See crude price table at the back of this issue for Prairie's complete schedule).

The Sinclair Crude Oil Purchasing Co. first raised the price of Mid-Continent and North Texas crude on Feb. 1, 25 cents, which raise was then met by the Prairie and other purchasers. Other companies meeting the Prairie schedule in full on Feb. 1 include The Texas Co., Mid-Continent Petroleum Corp., (Cosden), Marland Refining Co., and Empire Gas & Fuel Co.

Those companies whose price and gravity schedules on Mid-Continent and North Texas crude differ from the Prairie's include Humble Oil & Refining Co. Magnolia Petroleum Co. and Gypsy Oil Co. On Feb. 1, Humble raised its prices on Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie and Moran crudes 25 cents, added four new low grades and is maintaining its top grade of 44 and above which is now $2.68. Humble's prices on its new low grades are: below 25, $1.08; 25 to 25.9, $1.16; 26 to 26.9, $1.24; and 27 to 27.9, $1.32. Since Nov. 21, Humble had been paying $1.07 per barrel for all oil below 28 gravity. The rest of the schedule conforms to Prairie's prices up to 44 and above.

The Magnolia Petroleum Co. immediately met Prairie's advance on all grades, excepting that it is posting oil below 28 at $1.20, which is a 13 cent advance on this grade, the Magnolia having posted $1.07 per barrel for all oil below 28 gravity on Nov. 23. Magnolia followed Prairie by adding eight new grades of light oil, and its schedule from 28 degrees gravity to 52 and above conforms to Prairie's.

Gypsy Oil Co. added three low grades to its schedule as follows: 25 to 25.9 $1.16; 26 to 26.9, $1.24 and 27 to 27.9, $1.32. The rest of the Gypsy schedule conforms to Prairie's prices, effective Feb. 1.

Feb. 1.—Gulf Refining Co. of Louisiana advanced the Louisiana and Arkansas crudes it buys from 10 to 25 cents. It raised De Soto, Crichton and all grades of Bull Bayou crude 25 cents; all grades of Smackover and Galion, 10 cents; all grades of Homer, Haynesville and El Dorado, 20 cents; and Caddo, below 32 gravity, raised 20 cents, and all higher grades af Caddo raised 25 cents. Bellevue was unchanged at $1.65.

The Gulf has been maintaining since Aug. 28, 1925 the same price schedule on all the above grades as the Standard Oil Co. of Louisiana, excepting on Smackover. On the three higher grades of Smackover, it has been paying 5 cents over the Standard's price since July 15, 1925. The Gulf's new prices on Smackover, effective Feb. 1, are: below 24, 95 cents; 24 to 24.9, $1.25; 25 to 25.9, $1.35; 26 to 26.9, $1.40; and 27 and above, $1.45.

Prices posted by the Gulf were met on Feb. 2 by the Standard Oil Co. of Louisiana and on Feb. 1 by the Shreveport-El Dorado Pipe Line Co., excepting on Smackover heavy, which it advanced 15 cents to $1; and by the Louisiana Oil Refining Corp. on Smackover. On Feb. 2 the Louisiana met the Gulf raises elsewhere and Atlantic Oil Producing Co. met the Gulf and Standard on Homer, Haynesville and Smackover light. It met the Shreveport-El Dorado Pipe Line on Smackover heavy, advancing it 15 cents to $1.

The Texas Co. met the Gulf on Feb. 2 in Louisiana and Arkansas fields where it purchases.

Feb. 1—Midwest Refining Co. advanced Salt Creek crude 25 cents, bringing the minimum price on 29 to 29.9 gravity to $1.48 and the maximum price on 37 and above to $2.12.

Feb. 2—Standard Oil Co. of Louisiana advanced North Louisiana and Arkansas crudes from 10 to 25 cents per barrel. Caddo, below 32 degrees, and all grades of Homer, Haynesville and El Dorado were advanced 20 cents; three top grades of Caddo, all Bull Bayou, De Soto and Crichton 25 cents; and all grades of Smackover, 10 cents. Bellevue and Cotton Valley were unchanged.

Feb. 2—Louisiana Oil Refining Corp. advanced Stephens crude 10 cents, making 26 and above, $1.50 and below 26, $1.30. This was met immediately by the Atlantic Oil Producing Co. Last previous change on Stephens was 15 cent cut on Aug. 28, 1925.

Feb. 2.—Ohio Oil Co. advanced Wooster, Lima, Illinois, Princeton and Plymouth 25 cents; Indiana, 22 cents and Waterloo, 10 cents. New prices are: Wooster, $2.25; Lima, $2.23; Indiana, $2; Princeton, and Illinois, $2.12; Plymouth, $1.65.

Feb. 2.—Midwest Refining Co. advanced Grass Creek light, Elk Basin and Osage, Wyo., Cat Creek, Mont., and Hogback, N. Mex., 25 cents. On the same date Ohio Oil Co. advanced Elk Basin, Grass Creek, light, Big Muddy, Lance Creek, Rock Creek, and Mulecreek, Wyo. and Artesia, N. Mex., 25 cents. New prices are: Elk Basin, Grass Creek light, Lance Creek, Osage and Cat Creek, $2.15; Big Muddy and Rock Creek, $2; Hogback, $2.20; and Artesia, $1.70.

Wofford at Birmingham Has South's Largest Distributing Plant

By Roger B. Stafford
N. P. N. Staff Writer

PERHAPS the largest inland Independent bulk storage plant in this country is that of the Wofford Oil Co. at Birmingham, Ala. There may be one or two Independent jobbing plants that rival the Wofford plants in facilities for storing and handling petroleum products, but the only one that has come to this writer's attention has water transportation and receives its shipments mostly by barge.

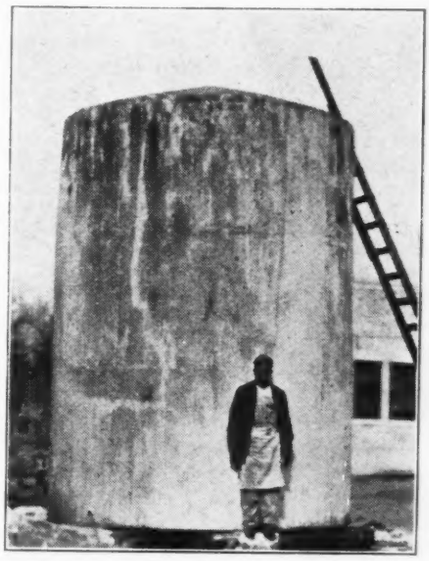
The Wofford's plant has tankage for 3,500,000 gallons of gasoline and benzol. It has tankage for 414,000 gallons of lubricating oils besides warehouse space for enough barreled oils to bring the lube storage capacity up to a half million gallons. There also are tanks for 36,000 gallons of kerosene.

Outside of several ocean terminals, the Wofford plant is the largest in the south. It serves one of the largest Independent distributors in the south.

One of Best in U. S.

Wofford has one of the best laid out jobbing plants in the United States. It is there that the Woco Pep, the benzol motor fuel which has been marketed by Wofford for almost eight years, is blended and from which are served 25 Wofford bulk stations throughout Alabama, and in Mississippi, the Wofford Oil Co. of Georgia, control of which is now owned by the Pure Oil Co., and the Woco Pep Co. of Tennessee at Chattanooga.

The gasoline and benzol storage facilities at the Birmingham plant consist



Original equipment! The tank with which G. T. Wofford started in oil business and Alec, his second employe. Alec is now housed, free of rent, in the company's old office building.

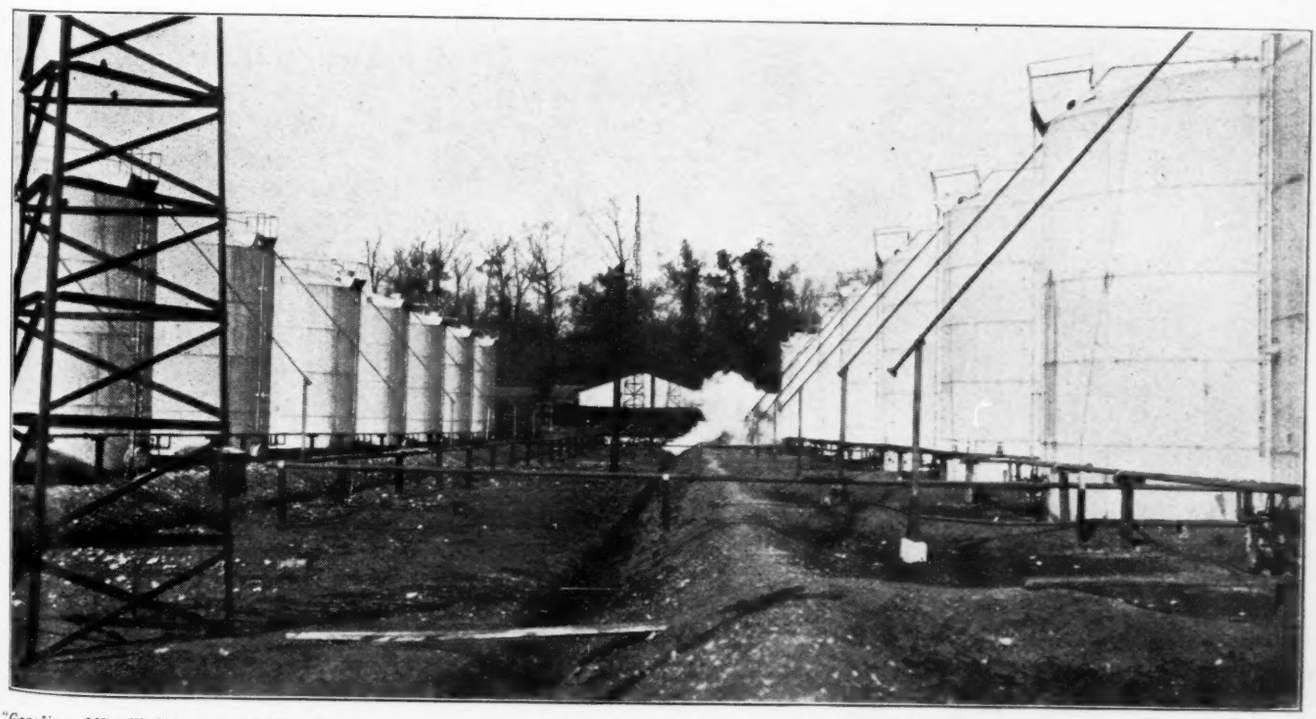
of six 250,000-gallon tanks, 19 80,000-gallon tanks and 12 18,000 gallon tanks. There are two tanks of 18,000 gallons' capacity for kerosene and 23 18,000-gallon tanks for lubricating oils.

Several of the 80,000-gallon tanks are equipped with mechanical agitators for the blending of gasoline and benzol into Woco Pep. Proper amounts of the two ingredients are pumped into a tank and agitated for 10 to 12 hours. After that the blend is allowed to stand for the same length of time before it is pumped to tank cars for shipment to one of the Wofford stations, the Georgia or Tennessee companies, or to tanks from which the local trade is supplied.

Cutting Down Evaporation

Summer heat is one of the problems of southern distributors and to hold down evaporation all of Wofford's large tanks are equipped with water sprinklers. All motor fuel tanks are painted white to reflect the sun's rays.

The 80,000 gallon tanks are set in two parallel rows along one side of the large site. Dikes have been thrown around each tank and vent pipes are inclined diagonally from the tops of the tanks downward toward dikes placed along the alley between the two rows. Each vent ends in a bell which is screened. In each line before it is bent toward the ground is a check valve which permits vapor to flow only out from the tank. The line is extended across the short pipe



"Gasoline Alley!" Nineteen 80,000-gallon tanks, part of the storage facilities at the Wofford Oil Co. Plant at Birmingham, Ala. Pipe lines sloping toward the ground are vents. Steel towers support lightning arrester. Light structure at the end of the alley is the pumphouse.

connecting with the tank and at the other end is another screened bell. In that part of the line is a check valve but it operates in the opposite direction from the first mentioned and permits air to be drawn into the tank when vapors inside the tank contract.

The space around the tanks and the alley between the two rows are kept free of weeds and grass. The screened bells prevent any flame from flashing into the tank.

Use Lightning Arresters

Alabama at times has severe electrical storms and extra precautions are taken to prevent lightning from starting a fire. At each end of the alley between the two rows of tanks 60-foot steel towers have been erected. These are connected by a wire which is grounded, the ground rod running down to permanent moisture.

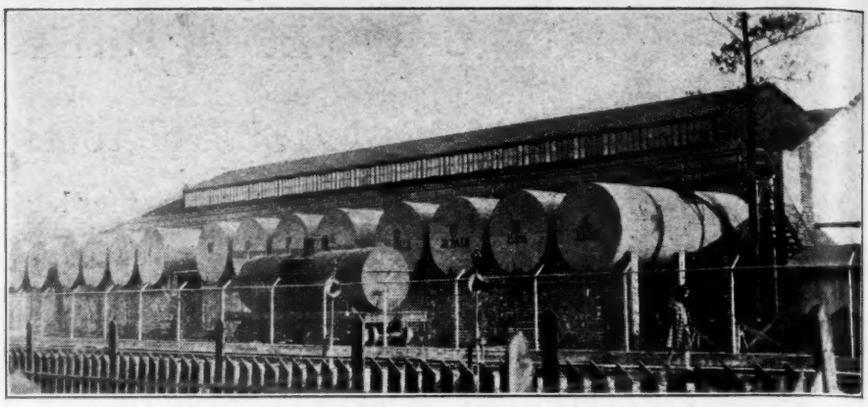
The 250,000-gallon tanks are set at another corner of the site in two rows, one containing four tanks and the other two. Between these tanks another lightning arrester has been erected, but with 75-foot towers. Whether these arresters have been effective no one is certain, but this fact is well known, Wofford has never had a fire caused by lightning.

All gasoline pipe lines are above ground, stretched on posts about two feet high, and are painted red. No vegetation is permitted to grow near these lines.

The warehouse was completed last year. It is 56 by 187 feet with a 100-foot "L" at one end. Fifteen 18,000-gallon lube storage tanks are arranged outside the building but with one end of each nosing through the side of the structure. Six blending tanks are arranged along the side of the warehouse where the storage tanks are placed. A feature of each tank is a valve which automatically closes the outlet should the connection inside the building become broken by accident or fire.

Storage of Packaged Oils

Barrels of oil are kept on steel racks, each rack having four tiers, one above the other. A portable mechanical lift



Side view of warehouse, 18,000-gallon storage tanks, and unloading rack for lubricating oils. Other ends of tanks protrude through wall into warehouse and lube blending room.

is used for the hoisting. Canned oils are stored on a balcony above the barrels. To facilitate movement of cases to the loading platform, a steel slide is used. The "L" contains the cooperage and barrel paint shop.

Motor oils for the Birmingham trade are handled at another building. There are six 18,000-gallon tanks whose noses penetrate one side of that building. Inside the building are facilities for barreling oil and pipe lines run across it to a tank-truck loading rack outside.

The boiler house also is new. It contains two boilers, one rated at 150 HP and the other at 60 HP. Coal which is mined close to Birmingham and is cheaper than oil, is used for fuel.

All pumps are steam driven. There are 15 pumps for lubricating oils, five for gasoline and benzol, and one for kerosene. Lube oil pumps are in the warehouse and blending plant. The gasoline and kerosene pumps are housed in a steel skeleton structure at one end of the alley between the 80,000-gallon tanks, or between those tanks and the unloading racks beside the plant's railroad connection.

The loading racks for tank trucks are under another skeleton building. The motor fuel flows by gravity from 18,000-gallon tanks which are supplied from either the 80,000 or the 250,000-gallon tanks.

There is a large garage for the company's motor equipment and a repair shop. The company operates 18 trucks in Birmingham in addition to salesmen's cars. Nine tank trucks haul only Woco Pep, two tank trucks are used for motor oils; one for kerosene, and three stake trucks are used for the industrial lube trade and packaged motor oils. One truck is used to service filling station equipment; another as an emergency car to look after the gasoline and oil trucks, and a third is used by the advertising department for its sign painters.

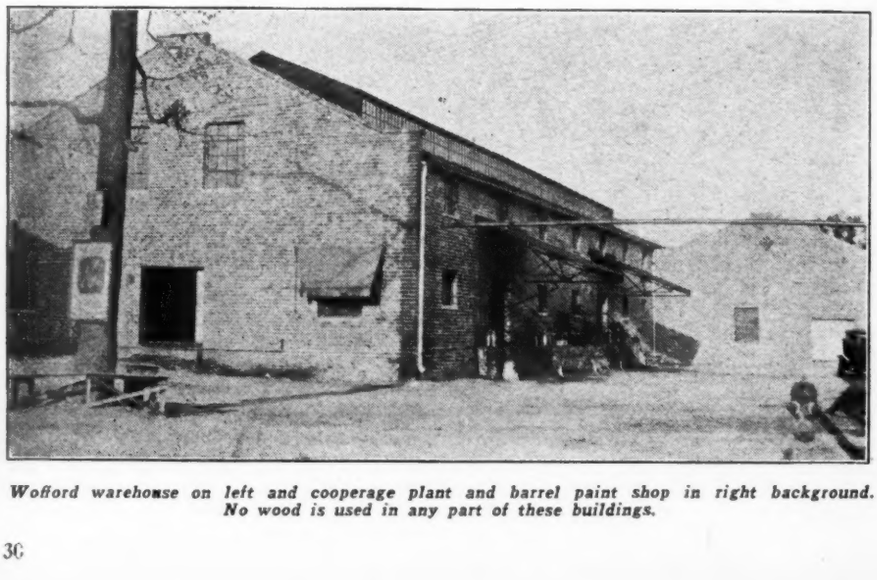
The Wofford company owns 25 bulk stations outside of Birmingham but agents own the operating companies and finance themselves. The company operates only one service station in Birmingham itself—that one being only a block from its bulk plant—but it serves 30 independently owned stations so located in city and suburbs that each may do a good business. No effort is made to place stations or pumps promiscuously and thus build gallonage. The policy has been to grant franchises only to dealers in good locations and where their business will not overlap with another also selling Wofford goods.

Big Station Gallonages

By a careful placing of stations, some big gallonages have been built up. The station of W. H. Elliott, for example, sells between 50,000 and 60,000 gallons of gasoline a month. Mr. Elliott is a pioneer as a dealer in Woco Pep and his station is in a preferred location, on the way to Red mountain, the exclusive new residential district of Birmingham.

These stations bear the names of their owners, either individual or corporate, but the yellow and black advertising of the Wofford Oil Co. leave no doubt as to the brand of goods handled.

Wofford signs are everywhere in and about Birmingham and the territory through which the company's products are handled. Wofford has an advertising manager, Thad Holt, who supervises all newspaper, outdoor and other forms of advertising. He has two sign painters steadily employed. The city has permitted the company to install 12



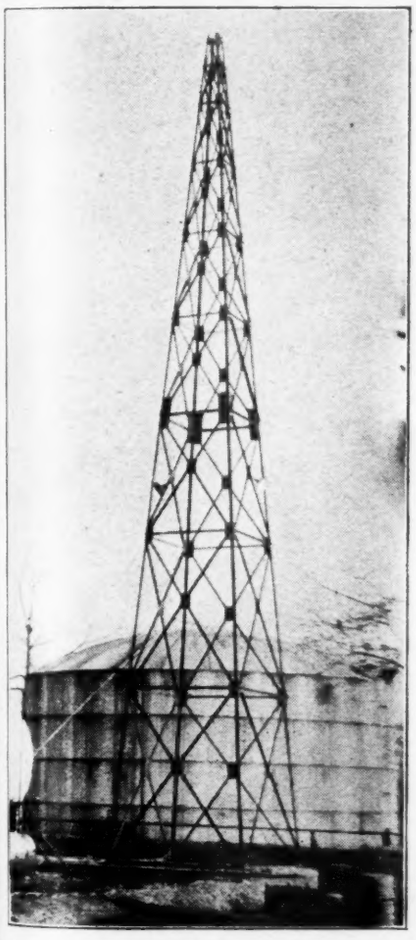
Wofford warehouse on left and cooperage plant and barrel paint shop in right background. No wood is used in any part of these buildings.

traffic light towers at important street intersections outside the business district. The bases of these towers carry Wofford advertising.

Sells Premium Kerosene

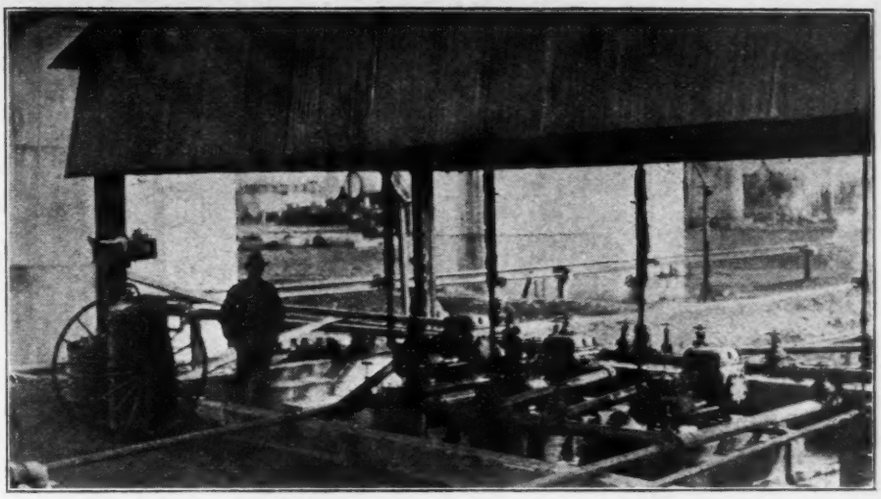
But Wofford sales promotion is not confined to Woco Pep, "King of Motor Fuel," as it is styled in the trademark. There is still a considerable kerosene market around Birmingham and two grades are handled by the Wofford. One is a grade that sells at the posted price of the Standard Oil Co. The other sells at 5 cents a gallon premium. It is branded "Kleen-Lite," and leaves no char on the lamp wick.

A little more than a year ago Wofford introduced its Klenzo-Lube service for automobiles. The advertising slogan, "Clean first—then lubricate," tells what the service is. To get the service,



One of six 250,000-gallon motor fuel oil tanks and 75-foot tower supporting lightning arrester.

a car owner must sign for a six-month period. Then once each month he is notified by the company that his car needs lubricating attention and he should call at a Woco Pep station. There the crankcase is drained, flushed with a light oil, and refilled with a proper grade of motor oil. The differential and transmission are washed out and refilled with the proper grease or oil. Dirty grease is forced from bolts and replaced with fresh grease. Springs, brakes or parts that may squeak are oiled or greased.



Skeleton steel pumphouse of Wofford Oil Co. All pumps are steam driven. Note foam tank at left. Like tanks are kept handy at many points throughout the Wofford plant.

A record of the service is turned in by the station operator to the Wofford company and in 30 days the car owner is again notified that it is time for another oiling or greasing. The owner pays nothing extra for letting the Wofford company do his remembering, but only the regular retail price of the oiling and greasing, the amount varying with the size and model of the car.

G. T. Wofford, president of the Wofford Oil Co. and principal owner, started the business in Birmingham in 1903 after serving five years as chief clerk and assistant manager of the Standard Oil Co. there. He put in $500; another man also put in $500, and two business friends put in $1000. They did a kerosene and lubricating oil business for 14 months when Mr. Wofford's backers sold out to the firm's chief competitor who hired his partner and sent him to California. The business was closed out.

Mr. Wofford gathered together more capital and leased the ground where the first venture was started. He also was able to buy back his office furniture and equipment but the competitor still had two months' tenure coming to it and refused to allow him to put more tanks on the land. He leased a strip 50 feet wide next to it, put his tanks there and started again. He obtained an Independent refinery source of supply and since that time has not been headed off.

Mr. Wofford was attracted to the use of benzol by the Germans in the war and started experimenting with it in his own car at Birmingham. In 1918 when benzol production had been brought to such a height in the Birmingham district that there was a surplus above the needs of the United States in the war, he had concluded that a benzol blend would make an unusually good motor fuel. He offered the first benzol blend to the public on March 15, 1918. With the end of the war benzol was a drug on the market and Mr. Wofford contracted to take the output of the by-product coke plants in the district. He now takes the production of the Woodward Iron Co., from which he received his first benzol, the Sloss-Sheffield Iron & Steel Co., and the Tennessee Coal, Iron & Railroad Co., a subsidiary of the United States Steel Corp.

Many of Mr. Woffords' early employes are still with him. Alec, a negro, who was his second employe, is his fireman. The original employe is dead. When the company completed its new warehouse last year, it converted its old warehouse into an office building and the old office was changed into living quarters for Alec.

D. L. Gilland is now assistant to Mr. Wofford. He formerly was with the Waite Phillips Co. at Tulsa. C. H. Armstrong is sales manager.

Type of Wofford service station in Birmingham. These are leased to individual operators. This station has a gallonage of 50,000 to 60,000 gallons a month the year around. Oiling pits and car wash are in right background. W. H. Elliott, owner of this station, pioneered in distribution of Woco Pep.

This roof blankets the oil - - -

LIKE a heavy blanket laid by giant hands, the Wiggins Roof completely seals up an oil tank. It makes fire or explosion impossible. It practically eliminates evaporation.

This is because the blanketing roof always sets in the oil. It rises and lowers as the level of the oil changes. Never is there an air space between roof and oil.

The only evaporation is around the side of the tank where an ingenious seal reduces the space between the float and the shell to a deep, narrow slot. During ordinary operation this slot is entirely closed. Where the shoe of the seal must pass over projections on the inside of the tank, a small surface is exposed, but it is always at the bottom of a deep slot. This condition cuts evaporation to a minimum.

The ideal tank would be a sealed tank which, miraculously, changes its capacity so that it would always hold, without a cubic inch of air space, the amount of oil on hand. Of course, you can't have this kind of a tank. But you can have it in effect—that's practically what a tank equipped with the Wiggins Roof is.

We'll gladly send you literature describing the Wiggins Roof—literature that explains why new tanks are being equipped with this roof, and why old wooden and steel roofs are being replaced by it.

Chicago Bridge & Iron Works

Chicago: 2125 Old Colony Bldg.
Cleveland: 2206 Union Trust Bldg.
Atlanta: 1050 Healey Bldg.
New York: 3145 Hudson Terminal Bldg
Dallas: 1639 Praetorian Bldg.
San Francisco: 1060 Rialto Bldg.

The WIGGINS ROOF

KEEPS OIL IN - - - KEEPS FIRE OUT

Prairie's Wildcat South of Burbank Draws Attention to Osage

Staff Special
TULSA, Feb. 2

PERSISTENT rumors of a crude advance and the completion of a number of important wildcats as producers in both Oklahoma and Kansas have kept the last week in January from being dull for the Mid-Continent producer. Every day has seen its rumor of an impending crude advance in spite of bearish discussions at the recent meeting of the American Petroleum Institute at Los Angeles.

Great importance is attached to the discovery of the Prairie Oil & Gas Co. in the SWc SE of 21-25-6 six miles south of the Burbank field. A little over a week ago the Prairie found the Burbank sand at 2677 feet and at 2698 feet the well began to make about 125 barrels of oil per day. The test was shut down to build tankage and run a nine mile line.

On Wednesday of this week the well was drilled on to 2722 feet, 24 feet into the pay and made 535 barrels in the first 19 hours. Since that time it has been putting from 540 to 550 barrels of 35 gravity oil into the tanks each day.

The well was found to have around 100 feet of water standing in the bottom of the hole Thursday morning. Operators plugged off this bottom water with lead wool and have experienced no more trouble.

While a large part of the Burbank field has never been troubled with water, in the western part operators have found a similar condition in sand which is thinner than that found in the Prairie well. The discovery of water is not considered as a factor which would condemn the find.

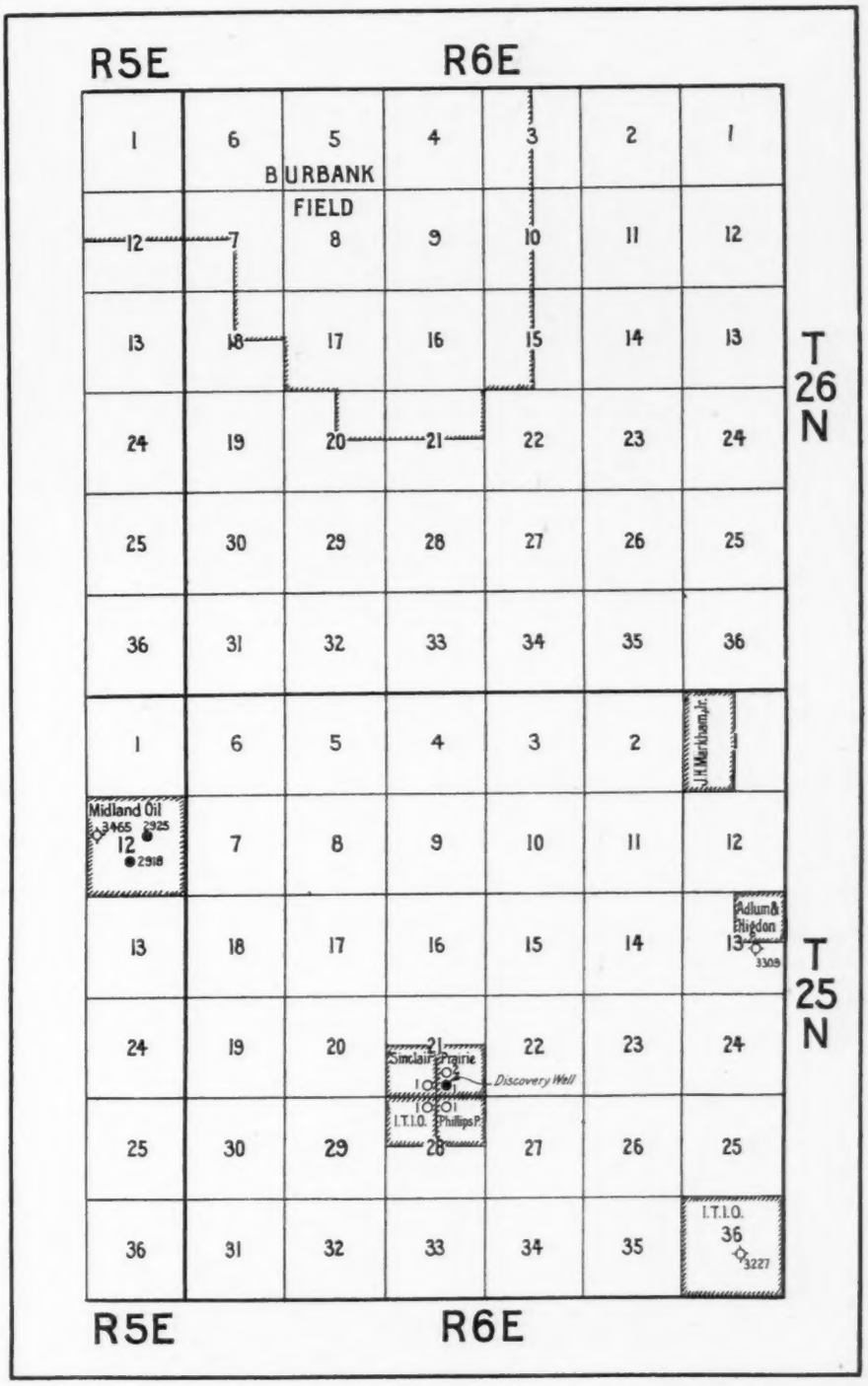
Similarity to Burbank

The sand itself is identical with that found in the Burbank field six miles north. When the well was drilled in the oil at first was 34 to 35 gravity but rather muddy. Since the well has cleared up the oil has come up to 38 gravity which is the same as that produced in the Burbank field.

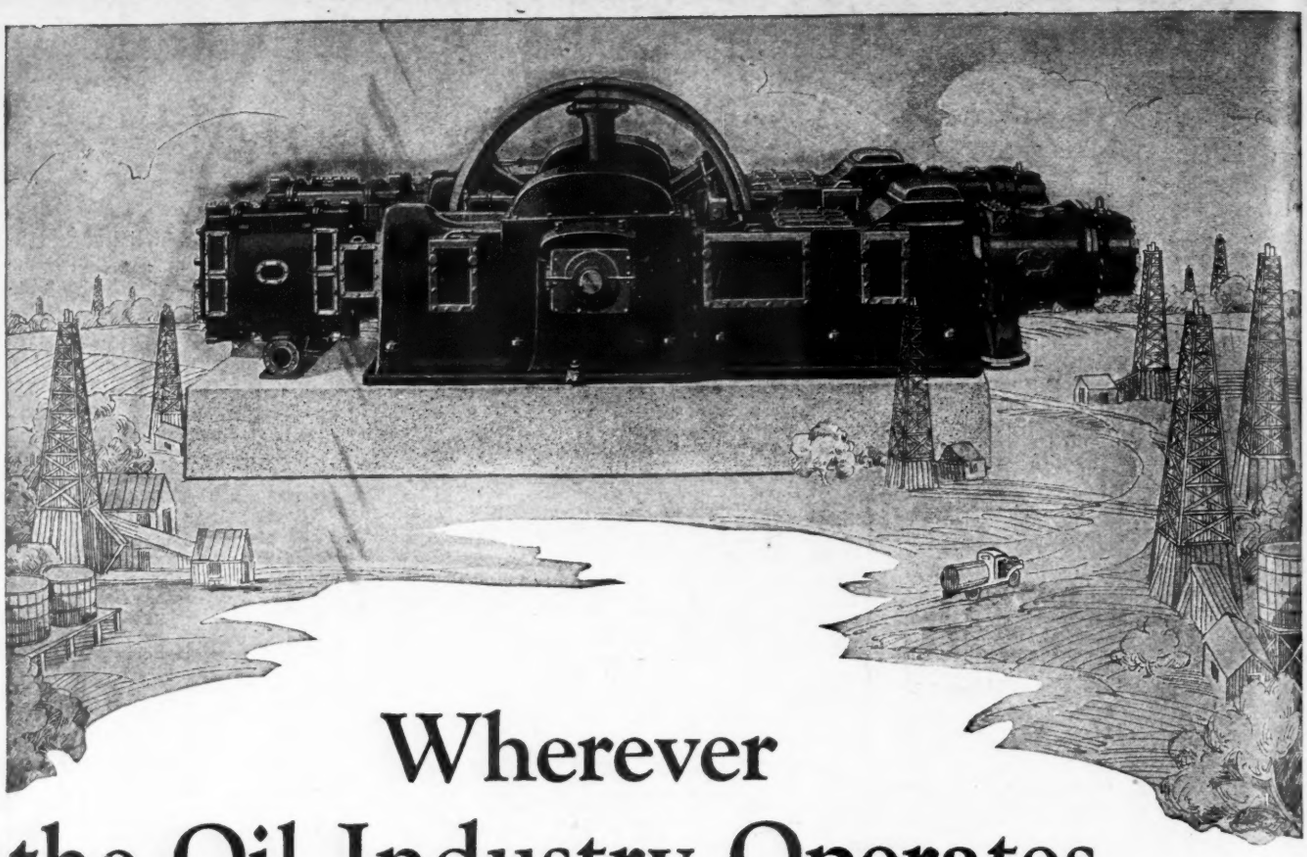
Since the discovery Prairie has built a rig for its No. 2 well to the north and made a location to the east for its No. 3 well. Sinclair Oil & Gas Co. owns a lease on the SW quarter of section 21 and has built a rig offsetting the discovery. Phillips Petroleum Co. will offset Prairie's No. 2.

The Indian Territory Illuminating Oil Co. has a lease on the NW quarter of Section 28 and has a rig up in the northeast corner for a diagonal offset to the discovery. Phillips Petroleum Co. has the NE quarter of the same section and has a rig up for a south offset as its No. 1 well. It will offset Prairie's No. 3 also, one location east. Aside from the three leases mentioned as offsetting the Prairie there are no other leases anywhere near the discovery.

The accompanying map shows the location of the Prairie well with reference to the Burbank field and other leases and development. Three and a half miles to the southeast the I. T. I. O. company has four leases in Sec. 36 in the SE quarter of which it drilled a 3227-foot dry hole The same distance northeast there is a 3309 foot dry hole in the SE of Sec. 13. Four miles northwest Midland Oil Co. has two producers in a shallower sand and a dry hole at 3465 feet. The Prairie well is almost half way between the Midland



Map showing relation of new pool in Osage county to the Burbank field.



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THE lasting service of Bessemer Oil Field Power equipment is not limited to the oil fields of the country alone, but reaches out to every part of the world where the Oil Industry operates.

Oil men the world over swear by Bessemers. They have served them faithfully for twenty-seven years, setting a standard of oil field engine operation by which other similar equipment is judged.

Wherever the oil industry goes, there Bessemer goes also—"standard equipment the world over."

THE BESSEMER GAS ENGINE COMPANY

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BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

Completions in Oklahoma and Kansas, Week Ended Jan. 30

OKLAHOMA

Beckham County

Company	Well No.	Location	Depth	Initial Production
Magnolia	1	C NE SE NE 4-8-25W	T.D.3691	Dry

Carter County

Company	Well No.	Location	Depth	Initial Production
Magnolia	3	C NE NW NE 19-1-3W	3130–3337	175
Humble	3	C SE NE NW 19-1-3W	2695–3050	23M
Magnolia	1	C NW SW SW 15-2-2W	1044–1060	45
Magnolia	1	C SW NW SE 19-1-3W	T.D.3210	Dry
Humble	19	SEc NW SW SW 9-4-2W	T.D.2434	Dry

Comanche County

Company	Well No.	Location	Depth	Initial Production
Howard	1	NWc SW NE 27-2-10W	T.D.2203	Dry

Creek County

Company	Well No.	Location	Depth	Initial Production
Mid-Cont	24	NEc SE SW 15-17-7E	2924–2944	75 & 29M
Tibbens	4	SEc SW 12-14-8	2345–2389	25
Tibbens	5	NEc SE SW 12-14-8	2352–2391	75
Transcontinental	1	SEc SW NE 28-17-11	1747–1776	15
Tex-Pac	7	SWc NW 17-16-9	2652–2672	35
Donnelly et al	4	CSL SE SW 17-14-10	3427–3439	100
P & R Corp	2	SWc NE SE 18-14-10	2881–3226	350
Livingston	2	CWL SW SE 33-18-11	2384	Dry

Garfield County—Garber

Company	Well No.	Location	Depth	Initial Production
Roxana	11	C NW SE SW 18-22-3W	3619–3630	1136
Sinclair	10	C NE SW 30-22-3W	2008–2025	25
Sinclair	28	SWc NE 24-22-4W	T.D.4507	Dry

Garvin County

Company	Well No.	Location	Depth	Initial Production
Magnolia	7	NWc SW NW 16-1-3W	1555–1556	20M
Heath-Baum	1	SEc SW SW 10-3 E	T.D.1655	Dry

Grady County

Company	Well No.	Location	Depth	Initial Production
Hall-Briscoe	1	CSL N½ NE SW 14-4-8W	T.D.2535	38M
Magnolia	1	C NE NE NE 28-3-5W	991–1004	6M

Hughes County

Company	Well No.	Location	Depth	Initial Production
Carter et al	2	C SW NW SE 1-9-9E	T.D.3919	Dry
Foster	1	C SE NW NW 26-9-9	T.D.3519	Dry

Jefferson County

Company	Well No.	Location	Depth	Initial Production
Hambro-Humble	6	CEL NE SE 33-6-5W	1362–1366	35
Gypsy	9	NEc SW NE 33-6-5W	1565–1577	700
Carter	4	C SE SW SW 34-6-5W	1370–1379	20

Kay County—N. Braman

Company	Well No.	Location	Depth	Initial Production
Comar	6	SEc NW SE 21-29-1W	1936–2098	153

Kay County—Braman

Company	Well No.	Location	Depth	Initial Production
Comar	2	NEc NW NE SW 5-28-1W	2295–2368	2756
Comar	6	NEc SE SW 5-28-1W	2366–2376	3878

Kay County

Company	Well No.	Location	Depth	Initial Production
Marland	1	C SE SE SW 1-26-2W	2939–2961 OWD	180
Mutual	2	SWc NE NW 1-26-2W	T.D.4650	Dry

Kay County—Thomas

Company	Well No.	Location	Depth	Initial Production
Marland	5	NWc SW 15-26-2W	T.D.4787	Dry

Kay County—Blackwell

Company	Well No.	Location	Depth	Initial Production
Marland	1	NEc SE 17-27-1W	3455–3469	17M

Kay County—Tonkawa

Company	Well No.	Location	Depth	Initial Production
Carter	1	NEc SW 30-25-1W	4511–4514	144
Mid-Cont-Marland	11	C N½ N½ NE 33-25-1W	4262–4280	1551

Latimer County

Company	Well No.	Location	Depth	Initial Production
Cochran	1	SWc 10-6-21E	T.D.5145	Dry

Lincoln County—Davenport

Company	Well No.	Location	Depth	Initial Production
Texas	7	NEc SE SW 2-14-5E	3287–3385	945
Texas	8	SEc SW 2-14-5E	3306–3385	727
Texas	9	SWc SE SW 2-14-5	3302–3385	720
Selby-Southwestern	11	NWc SW SE 3-14-5E	3354–3435	60
Magnolia	1	NWc SW 11-14-5	3340–3398	65

Muskogee County

Company	Well No.	Location	Depth	Initial Production
Herbert	1	C NW NE SE 14-13-18	520– 758	5M

Okfuskee County

Company	Well No.	Location	Depth	Initial Production
Amerada	10	NEc SE NW 13-12-11	3340–3362	590
Riverland	1	SWc SE SW 19-11-11	2852–2870	20M
Windsor	6	SEc NW NW 22-11-11	2527–2536	350
Burk-Greis	1	C NE SW SW 15-10-9E	3043–3062	25 & 15M
Mid-Kansas	1	C SW SE NW 14-10-11E	T.D.3912	Dry

Okmulgee County

Company	Well No.	Location	Depth	Initial Production
Paraffine	6	NWc SE NE 34-16-11	2963–2966 OWD	10
Okla. Natural	12	CNL S½ SW 24-16-12	2120–2125	10
Sheridan	6	SWc NE NE 28-16-12	2062–2072	2M
Selby	3	NWc SE 4-16-13	2119–2121 OWD	350
Hammond et al	1	SEc NW NW 35-15-12	1861–1895	24M
P & R	5	NWc SE NE 32-13-11	3194–3226	350
Roxana	5	NWc SW NW SE 15-13-14	2448–2464	400
Helena	3	C SW NW 16-13-15	2298–2310	20
Williams	1	SEc NE NW 30-16-12	T.D.2344	Dry
Santuna	4	SWc NW NW 1-15-11	T.D.2810	Dry
Abbott-Dillard	1	NWc 12-14-12	T.D.2752	Dry
Continental	3	CWL NW NW 12-14-12	T.D.1950 OWD	Dry

Osage—Burbank

Company	Well No.	Location	Depth	Initial Production
Skelly	5	NEc NW NE SW 26-27-5	2913–2963	15

Osage County

Company	Well No.	Location	Depth	Initial Production
Peters	6	CNL S½ N½ NW 32-24-9E	2507–2532	40
Kanupp-Bozo	5	SEc NW SE NE 18-21-10	1951–1971	40
Oliphant	3	SEc SW SE NE 15-29-10E	1054–1090	50
Pet Drlg	15	SEc SW SE SW 26-26-8E	T.D.1301	Dry
Blackstone	2	C NE SE NE 22-23-7E	T.D.2538	Dry
Finance-Delmar	6	CNL S½ N½ SW 18-22-11E	T.D.1698	Dry
Flight	1	C SW NW NW 6-21-9E	T.D.2950 OWD	Dry
Phillips	1	SWc NE SW 28-25-9E	T.D.2611	Dry

Pawnee County

Company	Well No.	Location	Depth	Initial Production
Adamson	3	CWL SE SW 32-21-8E	T.D.2550	Dry
Sears et al	1	CWL NE NE 7-20-8E	T.D.2547	Dry
Tidal	2	CNL SW NE 35-21-8	2385–2415	5

Payne County

Company	Well No.	Location	Depth	Initial Production
Deep Rock	2	NEc SW SE 23-18-3	3710–3750	210
Home Gas	1	SWc NW 1-18-5	3100–3113 OWD	5M
Marland	2	SWc NW SE 7-18-5E	2868–2887	90
Shaffer	3	SEc SW NW 5-17-4	3678–3705	9½M
Mulberry	2	NWc SE SW 5-17-4E	T.D.4292	Dry

Pontotoc County

Company	Well No.	Location	Depth	Initial Production
Bronson-Doyle	1	SWc NE 5-4-5E	T.D.1900	Dry
Boles-Smith	1	NWc SE 34-5-6E	1272–1273	5M

Seminole County

Company	Well No.	Location	Depth	Initial Production
Phillips	1	C SE SW SE 32-11-8E	T.D.4013	Dry
Roxana	3	C SW SE NE 15-10-8E	T.D.3618	Dry
Atlantic	1	C SW SW SW 31-10-8E	T.D.3750	Dry

Stephens County

Company	Well No.	Location	Depth	Initial Production
Flowers et al	2	SEc SW 26-2-9W	T.D.2524	Dry
Consolidated	1	SWc NW NW 27-2-9W	T.D.2754	Dry
Eagle Creek	6	SEc SW NE 26-1-9W	T.D.1480	Dry
Carter-Knox	3	NWc NE NW 20-20-5W	1464–1486	50

Tulsa County

Company	Well No.	Location	Depth	Initial Production
Crown Central	1	NEc SE SW 19-19-10	1892–1903	4M
Suppees et al	1	CEL SE SW 34-19-12	2035–2055	2M
S. S. Home	2	SEc SW NE NW 3-19-11	2239	Dry
Henry	2	CEL NW NW 36-17-12	2327	Dry

Wagoner County

Company	Well No.	Location	Depth	Initial Production
Hayes	1	NEc NW 23-17-16	T.D. 925	Dry
Eastern Okla	4	CNL S½ NW SW 21-18-16	736– 768	4
Marr et al	1	SWc NE SW 29-18-16	807– 829	40
McMahon	4	NEc SW NE 14-17-16	820– 841	35
Mitchell	1	SWc NW NW NW 1-16-16	1407–1422	7½M

KANSAS

Butler County

Company	Well No.	Location	Depth	Initial Production
Phillips	1	SWc 27-27-7E	2716–2753	100
Federal	1	NEc 33-27-7	2715–2750	250
Roth	7	CNL SW SE 33-29-8E	2098–2105	45
Empire	160	SEc NW SE NW 8-25-5E	T.D. 865	Dry
Brennon et al	1	NEc SE SE 28-26-7E	T.D.2775	Dry

Chase County

Company	Well No.	Location	Depth	Initial Production
Alters et al	1	NWc 19-19-8	T.D.1365	Dry
Mid-Kansas	2	SWc 36-22-9E	2423–2446	60

Elk County

Company	Well No.	Location	Depth	Initial Production
Conley et al	6	CEL NE SW 3-30-9E	1036–1050	20
Elk Pet	4	CWL NW SE 3-30-9E	1048–1064	20

Greenwood County

Company	Well No.	Location	Depth	Initial Production
Sinclair	34	SEc SW 20-22-10E	2274–2309	75
Texas	2	NWc NE NW SW 29-22-10E	2488–2526	110
Phillips	3	SEc NE SE 30-22-10	2462–2485	25
Tidal	1	NEc SE 30-22-11	2066–2090	25
Phillips	8	CWL NW SW 19-23-9	2561–2637	75
Mid-Kans	33	NWc SW SW SW 31-23-10	2338–2362	75
Troxell et al	1	NEc SW 24-22-10	T.D.2223	Dry
White Eagle et al	4	NWc SE 19-23-9	T.D.2627	Dry
Roth-Faurot	1	SEc SW NE 35-25-11	T.D. 570	Dry

Lyons County

Company	Well No.	Location	Depth	Initial Production
Southwestern	1	SWc NE 32-21-10	T.D.2666	Dry

Wilson County

Company	Well No.	Location	Depth	Initial Production
Culp et al	1	C SE SE 7-28-14	T.D.1528	Dry

Woodson County

Company	Well No.	Location	Depth	Initial Production
Brinegan et al	1	SEc SW NW 14-26-14	T.D.1530	Dry

and I. T. I. O. dusters. The Prairie discovery is the third well which has been drilled in the entire township.

Big Untested Area

North of the discovery the entire area is free from lease over a strip five miles wide clear up to the Burbank field. During the war the east half of Sec. 3, all of Sec. 4 and the SE quarter of Sec. 5 was set aside as a naval reserve. It has been marked on maps as a naval reserve since that time but it has developed since the Prairie strike that no lease was ever executed by the navy department and that the territory is open for lease. At the time the reserve was set aside the Osages agreed to a protection zone about the reserve which included all of sections 32, 33 and 34 in 26-6 and the remaining portions of sections 3 and 5 and all of sections 8, 9, 10, 15, 16 and 17 in 25-6. This made a block of 12 square miles.

It is understood that government geologists checked an excellent structure in this area before the section and three quarters were set aside together with the protection zone of 10 quarter-sections.

In view of the large area which is untested and the structure mapped by the government men to the north it will be understood readily that the Prairie well is being watched with the utmost interest. It is entirely possible that the strike may mean the discovery of another Burbank field.

During the past week it was announced that an Osage sale of leases will be held on March 17 and 18 at Pawhuska. This announcement came

Completions in North and East Texas, Week Ended Jan. 30

Company	Well Farm	Location Survey	Depth	Initial Prod.
Archer County				
Waite Phillips	9-Wilson	Howard	1732–1739	50
Waite Phillips	10-Wilson	Howard	1730–1786	50
Waite Phillips	4-Wilson	Howard	1712–1713	25
Muse et al	1-Jackson	Aldridge	1535–1539	75
Nurns-Maxson	2-Brown	Geraldine	1573–1585	125
Independent	2-Wolfe	Poitevant	1357–1361	15
Primrose	3-Wolfe	SP	1326–1340	150
Texhoma	6-Oldham	Hubble	1305–1338	170
Texhoma	3-Abercrombie	SP	1338–1354	40
Phillips	2-Falls	Falls	1171–1174	73
Darlick	6-Darlick	TEL	1405–1417	75
Pandem	4-Young	TEL 2432	1437–1442	125
Sun	8-Richardson	TEL	1447–1453	40
Sun	9-Richardson	TEL	1441	45
Magnolia	6-Portwood	TEL	1398–1404	54
M & V	3-Kunkle	BBB&C	1173–1177	110
Texas	4-Boren	Newman	1073–1083	120
Burton et al	1-Stehlir	Denton	T.D.1850	Dry
Shasta-Tidal	1-Mangold	McKinney	T.D.1850	Dry
Consolidated	1-Howley	SP	T.D.1850	Dry
Bridwell-Gholke	9-Wilson	ATNC	T.D.1645	Dry
Wichtex-Dixie	4-Jackson	Aldridge	T.D.1564	Dry
Waite Phillips	2-Wilson	Harrets	T.D.1537	Dry
Sanford-Thompson	1-Turberville	Carson	T.D.1636	Dry
Hazlett-Simmons	1-Hutchinson	ATNC	T.D.1430	Dry
Camp	1-Farmer	Ainesworth	T.D.1502	Dry
Swastika	1-Kovar	TEL	T.D.1493	Dry
Murchison-Fain	1-Hayter	TEL	T.D.1580	Dry
Pet. Prod	1-Portwood	TEL	T.D.1539	Dry
Trio	11-Brown	TEL	T.D.1432	Dry
Murchison-Fain	1-McClure	C. Post	T.D.1340	Dry
Texhoma	2-Kunkle	Steel	T.D.1185	Dry
Baylor County				
British-Amer	1-Haggard	BBB&C	T.D.2005	Dry
Green et al	1-Shelly	TEL	T.D.1559	Dry
Richardson	1-Harmel	TEL	T.D.1502	Dry
Brown County				
Cosden	4-Westeman	Mitchell	1288–1296	360
Conway	3-Chambers	Logan	1286–1295	200
McLester	3-Clarke	ETRR	1186–1202	190
Ingleright et al	1-Eddington	Millican	1238–1241	50
Callahan County				
Savings-Conway	1-Thorn	Edwards	1360–1380	½M
Weiler	1-Cent. Ad.	Anderson	1454–1456	35
Riddle et al	1-Cent. Ad.		1438–1439	25
Smith et al	1-Cent. Ad.	Knight	1447–1453	140
Shackelford et al	1-Cent. Ad.	Knight	1448–1451	15
Williams-Mason	1-Cent. Ad.	Knight	1433–1435	175
Mook et al	5-McDonough	Knight	1419–1433	42
Fain et al	1-Cent. Ad.	Anderson	T.D.700	Dry
Burk et al	1-Highland	Millican	T.D.1474	Dry
McCamey et al	1-Cent.		T.D.1479	Dry
Coleman County				
Humble	1-Morris	Harris	T.D. 850	Dry
Canery et al	1-Morrison	TNO	T.D.2220	4M
Eastland County				
Carter	1-Falls	Finlay	3510-T.D.	Dry
States	1-Stubblefield	H&TC	3111–3120	2, 1M
Hallmack	1-Allison	H&TC	T.D.1580	Dry
Texas Dev	2-Rushing	H&TC	T.D.3317	Dry
Falls County				
Mook et al	1-Woodruff	Sterling	T.D.3205	Dry
Limestone County				
Pure	15-Kendrick	Varela	T.D.3016	150
Milam County				
Lee	1-Isaacs	Chambers	T.D.3457	Dry
Montague County				
Smith et al	1-Maddox	Chambliss	882– 910	25M
Texas	1-Maddox	Arnold	917–1202	18M
Shackleford County				
Roberts et al	1-Masterson	TEL	284– 292	4
Stephens County				
Hughes	1-Thompson	TP	1998–2035	25
Carter-Thompson	1-Polan	TP	T.D.3660	Dry
Swensondale	1-Echols	TP	4156	Dry
Wichita County				
Duffey-Loofbowan	1-Schroader	Dennison	T.D.2000	Dry
Wilbarger County				
Winnipeg	1-Waggoner	H&TC	T.D.2456	Dry
Landreth	7-Waggoner	H&TC	T.S.1910	20
Young County				
Bridwell et al	3-Boren	Newman	1048–1086	175
Tex-Unity	1-Campbell	TEL	T.D.1103	Dry
Hoyle et al	1-Benson	TEL	T.D. 906	Dry
Everest et al	1-Campbell	TEL	T.D.1065	Dry
Plains	1-Butler	TEL	T.D.1014	Dry
Consolidated	1-Hall	TEL	T.D.1101	Dry

Completions in North Louisiana and Arkansas, Week Ended Jan. 28

Company	Well	Location	Depth	Yield
Louisiana—Caddo Parish—Vivian				
H. J. Bussa	Allen No. 6	23–22–15	1070	40
Caddo Parish—Caddo District				
Lewis Oil Corp	Vespy No. 4	15–21–15	1600	600
Webster Parish—Cotton Valley				
Ohio Oil Company	E. W. Hodges No. 2	16–21–10	2573	40
DeSoto Parish—Naborton				
Gulf Refining Co	Jenkins A-34	2–12–12	840	1m. gas
Texas Oil Co	Wemple A-9	2–12–12	2445	45
Ouachita Parish				
G. E. Gordon, trustee	Rea & Green No. 1	2–18–4E	2198	5m. gas
LaSalle Parish—Urania				
O. W. Clark	Miles No. 1	25–10–1E	1544	200
ARKANSAS				
Nevada County				
Greeson et al	Groves No. 1	2–24–21	1160	130
Smitherman & McDonald	C. W. Waters No. 1	2–14–21	1142	30
El Dorado—East Field (Calion)				
Wingfield et al	Lyon No. 3	7–17–14	2855	s.w.
Hempstead County				
A. H. Tarver	Swofford No. 1	14–11–25	2989	Dry
Cleveland County				
Simms Oil Co	Mosley No. 1	19–10–11	3503	Dry
Lisbon District				
E. M. Jones	J. R. Dumas No. 1	8–17–16	2125	Dry
Owens et al	Porter No. 1	4–17–16	2140	Dry
J. D. Reynolds	Dumas No. 1	15–17–16	2160	10
Rovenger Oil Corp	Dumas No. 1	9–17–16	2080	60
Magnolia Pet. Co	R. O. Scott No. 2	12–16–17	2345	40
Wingfield et al	Dumas No. 1	9–17–16	2100	Dry
Smackover				
Meek, recorder	La Grone No. 1	36–15–17	2277	25
Pure Oil Co	Stout Lbr. Co. No. 1	27–15–18	2801	Dry
Kouri et al	Snowhill Bap. Ch. No. 2	28–15–15	2650	10m. gas
Bradley & Cozart	Miles No. 1	21–17–15	2575	junked
Broderick & Calvert	Bradford No. 4	8–16–15	2627	30m. gas
Hollyfield et al	Giller 3-A	10–16–15	2586	100
Howell et al	Williams No. 5	3–16–15	2385	100
Imperial O. & G. Co	McClannahan No. 7	6–16–15	2543	junked
E. M. Jones	Lawton No. 3	10–16–15	2708	20m. gas
Lion O. & R. Co	Graves No. 10	3–16–15	2360	40
Penguin Oil Co	McDonald No. 6	1–16–16	2572	s.w.
S. Richardson	Lawton No. 3	10–16–15	2630	10m. gas
Rowe-Daniels Pet. Co	Tatum 3-A	7–16–15	2563	125
Shreveport Oil Corp	Murphy B-5	9–16–15	2440	150
Sun Company	McClannahan No. 1	1–16–16	2650	s.w.
Thurman et al	Wilson No. 9	6–16–15	2570	200
Vance et al	Kane No. 1	12–16–16	2630	junked
Woodley Pet. Co	Umstead No. 1	4–16–15	2360	125

on the heels of the Prairie discovery and has served to cause geological forces to begin a study of the region. While the list of tracts for the sale probably was made up prior to the discovery it is considered likely that it will be revised to provide for the sale of a number of tracts surrounding the new well. The last Osage sale was poorly attended and brought in very little bonus money as compared with previous auctions. The Osages look on the new discovery as one which will bring back the stirring scenes of high bidding which attended Osage auctions during the development of Burbank.

At the Osage agency the Prairie well is considered as an extension of the Burbank field. Oil men generally consider it a new field, however, and have christened it the Fairfax field since it is but four miles from that town.

Kansas Wildcat

In Kingman County, Kansas, the Carter Oil Co. and Port D. Fleeger caused great excitement early in the week when it brought in a rank wildcat some 60 miles from the nearest production on the Richardson farm in the NEc SE of 16-27-7W. This well found the top of a sandy lime at 3848 feet at which point a flow of gas was encountered which increased to 4,000,000 cubic feet and began spraying oil. At a total depth of 3888 feet the well was estimated at about 250 barrels per day of 34 gravity oil. A little later the gravity declined to 28.5 Be. and began making some cut oil. During the 24 hours ending today the well made 130 barrels of oil which was 5 per cent b. s.

Carter has 400 acres in partnership with Mr. Fleeger on which the well was drilled and a block of some 3000 acres closely held around the well. While the well may not be a commercial success over any great period it is looked

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on as a highly important test. Undoubtedly it will serve as an impetus to much drilling in that general area.

Bryan & Emery, Nillson and the Carter Oil Co. brought in another wildcat this week in the southern part of Seminole county which is causing some interest. The well is in the SEc of Sec. 4-7-6. Sand was encountered at 2752-54 feet and the well made 70 barrels in the first 24 hours. Nothing more will be done until a line is laid.

The North Baltimore Oil Association scratched the top of the lower Deaner sand and have a well estimated at 250 barrels per day at present in a test in the NW of Sec. 18-12-12. This well is a mile east of the Wilcox discovery made last November by the same company and the Anglo-Tex Oil Co. in Sec. 13-12-11. In the present well the Deaner was touched at 2536 feet.

Drilling operations in Oklahoma, Kansas and North Texas

	Week Ending Jan. 30					Week Ending Jan. 23				
	Loc.	Rigs.	Drg.	S.D.	Total	Loc.	Rigs.	Drg.	S.D.	Total
OKLAHOMA										
Burbank	...	6	8	1	15	...	...	10	1	11
Other Osage	2	7	42	12	63	2	9	31	13	55
Bristow-Cushing	25	32	167	29	251	20	32	175	33	260
North Oklahoma	15	25	146	95	281	17	28	138	101	284
South Oklahoma	14	25	154	23	216	14	22	138	40	214
Muskogee	...	11	47	9	67	...	11	48	11	70
Okmulgee-Bristow	3	50	91	41	185	4	49	100	38	191
Tonkawa	...	...	7	2	9	...	...	8	2	10
Wewoka-Cromwell	11	15	110	30	166	8	18	103	38	167
Total Oklahoma	68	171	772	242	1253	65	169	751	277	1262
KANSAS	68	101	221	144	534	63	88	217	147	515
NORTH TEXAS										
Eastland County	...	1	44	4	49	...	1	44	4	49
Stephens County	...	16	32	12	60	...	15	34	10	59
Texas Panhandle	...	21	55	13	89	...	20	53	11	84
Mexia District	...	1	7	1	9	...	1	7	1	9
E. Texas Wildcats	...	4	7	14	25	...	4	7	14	25
W. Texas Wildcats	...	15	160	84	259	...	24	154	86	264
Wichita Falls	...	70	152	66	288	...	56	155	58	269
Total N. Texas	...	128	457	194	779	...	121	454	184	759
GRAND TOTAL	136	400	1450	580	2566	128	378	1422	608	2536

Bradford Operator Tells of Plan To Use Water and Air Drive

TULSA, Feb. 2

A COMBINATION of air and water drives to recover oil in the Bradford field is now being undertaken as an experiment it was announced at a meeting of the Mid-Continent section of the American Institute of Mining and Metallurgical Engineers here on Jan. 29, by Dr. J. B. Umpleby, general manager of the Petroleum Reclamation Co. and vice president of the Goldeline Oil Corp. The announcement was made in the course of a discussion on water flooding which drew together a large number of production engineers from this area.

One 70 acre tract controlled by the interests represented by Dr. Umpleby in the Bradford field is surrounded on three and a half sides by water flooding operations. Preparatory to installing air pressure a line of water wells has been put down entirely surrounding the property.

With the line of water wells around the 70-acre tract it is figured that a water dam has been installed which will prevent any oil from moving to a neighboring property. The company will have, in effect, an individual oil pool surrounded by water.

It is estimated that the original rock pressure of the Bradford field was about 400 pounds. The water wells are being kept with a hydrostatic head of about 800 pounds pressure and air is being applied to the field under a pressure of about 250 pounds. The idea of the experiment is to attempt to reproduce as nearly as possible conditions which were found in the field many years ago. This experiment has not progressed far enough to make any announcements of results but accurate observations of the work are being made and it is expected that the experiment will yield much information.

A new experiment is being tried in water flooding which is calculated to increase the recovery of oil by that method. It consists of adding a quantity of soda ash in the water wells for the purpose of breaking up the film of oil clinging in the oil sand so that it may be driven ahead of the flood. From $25 to $50 worth of soda ash is being added to each water well in the experiment.

Observations of Dr. Umpleby and his associates in conducting water floods have been that oil travels in banks ahead of the water. It has been learned that the water ordinarily travels most rapidly in the lower part of the sand and that banks in the upper part come along more slowly. In operation the oil wells are pumped until the topmost oil bank is exhausted and the well produces a very large percentage of water. Then the well is "dumped" or turned into a water well to continue the flood to the next line.

To take advantage of this observation the first line of oil wells are being drilled only through the upper member of the Bradford sand so that they will recover the slower traveling upper banks of oil. The second tier of oil wells are drilled clear through the sand. The operators are thus making the faster traveling bottom water go twice as far.

History of Flooding

In a sketch of the history of flooding operations in the Bradford field Dr. Umpleby stated that many years ago a few operators surreptitiously dropped small shots in some of their wells to allow surface water to enter. This was called "bootlegging" in the early days.

The Pennsylvania legislature legalized flooding in 1920 and experiments have been carried on in growing numbers since that time. The earliest floods were of the circle type. That is one well in the center of a tract was made a water well and the flood progressed outwards in an ever enlarging circle.

It was found that the water did not spread out uniformly in all directions by using the circle flood. Then the Forrest Oil Co. contributed the idea of the line of water wells. Frank Haskell has suggested drilling the entire property at once in groups of five wells. One water well in the center of the group would be surrounded by four oil wells about like the spacing of spots on the five side of a dice.

Production records in the field indicate that the line method is the most efficient in that around 20 per cent more oil is recovered in a shorter period. The average life of oil wells ahead of the water flood in the circle method is 40 to 45 months while this is reduced to 30 to 36 months in the line method.

Dr. Umpleby and his associates figure that the flooding method in the Bradford field will recover around 6,000 barrels of oil per acre. Some leases have yielded as much as 7500 barrels per acre. This is in addition to the 3000 to 4000 barrels per acre which have been recovered by ordinary pumping methods since the discovery of the field.

Cores of the Bradford sand and calculations indicate that after the flood has passed there still remains in the sand about 20,000 barrels of oil per acre. By normal production methods and by flooding the ultimate recovery is thus calculated to be only about one third of the actual content of the sand.

The large amount of oil left in the Bradford sand after flooding has been completed is largely due to the triangular shaped sections of sand between wells which are never touched by the water flood. This was illustrated diagrammatically by slides shown the engineers at the meeting.

Speaking of the expense of water floods Dr. Umpleby said that wells cost an average of $3,000 each and that two wells are needed per acre. He stated that if air pressure can produce half the amount of oil gathered by the flood without drilling additional wells that the net return to the producer will be the same.

Asked about the 20,000 barrels of oil per acre remaining in the sand, Dr. Umpleby remarked that it is planned to mine that.

Proposes Constant Check on Standards Of Viscosity By Committee

Staff Special
LOS ANGELES, Feb 2

MISTAKES and disputes that arise from inaccurate viscosimeters and inaccurate methods of using them are to be reduced through a survey every six months of these instruments and their methods in use in the oil industry in various districts.

At a group meeting of the technical advisory committee of the American Petroleum Institute, held in connection with the sixth annual meeting here last week, Dr. T. G. Delbridge of the Atlantic Refining Co., Philadelphia, chairman of the committee on viscosity standards of the Institute, asked for and received authorization to reorganize the committee and widen the scope of its activities.

Dr. Delbridge stated he proposed to enlarge the membership of the committee and appoint a chairman for each of the various districts, such as East Coast, Western Pennsylvania, Gulf Coast, Mid-Continent and California. Each of these chairmen will be expected to check up on the status of the viscosity testing instruments in use in the laboratories in his district and report to the general chairman every six months.

The committee on viscosity standards was appointed in 1922 and finished its work and made its report to the American Petroleum Institute in December, 1924. The report has been put out in pamphlet form by the institute. The original committee consisted, besides Chairman Delbridge, of the following: J. T. B. Bowles, now with the Crown Central Petroleum Co.; Roger Chew, Standard Oil Co. of New Jersey; W. H. Herschel, Bureau of Standards; K. G. Mackenzie of The Texas Co.; and W. E. Perdew, now of the Derby Oil Co., Wichita, Kan.

In his report, Dr. Delbridge said:

"For several years petroleum chemists have realized it is impossible to standardize the Saybolt Universal and the Furol viscosimeters by linear dimensions alone and that some other means must be adopted to make it possible for different operators to secure comparable results on a given oil with different instruments of the same kind.

Discordant Results Found

"In this connection the following results of a preliminary investigation will be of interest: (a) From a total of 26 laboratories reporting, 16 made a definite effort to keep their instruments in line with others, either by maintaining primary standards, by returning tubes to George M. Saybolt for checking or by comparative work with other companies. (b) The viscosities reported on a certain oil by these various laboratories varied from 200 to 223 seconds at 100 F., eight laboratories checking within 1 per cent.

"The scope of the work planned by the committee may be summarized as follows:

(a) "To devise practical working directions or a method of operation for the Saybolt Universal and Furol viscosimeters so that the observed Saybolt or Furol seconds on the same oil with the same instrument, but by different operators, will check as closely as within 1 per cent.

(b) "To establish practical reference standards for viscosity, Saybolt universal and Furol, which will serve the American petroleum industry until such time as the Bureau of Standards may devise an absolute standard.

(c) "To devise a practical method for correcting the results obtained from any given Saybolt Universal or Furol so that the reported Saybolt or Furol seconds on the same oil by different operators working with different instruments will check as closely as within 2 per cent."

Such standards and directions were established by the committee but according to Dr. Delbridge, the viscosity standards as to equipment and practice should be checked frequently or else extensive errors will creep in that will cause endless disputes and misunderstandings. It is very easy for the orifices in viscosimeters to become worn so that the rate of flow of oil through them is not accurate unless they are constantly checked.

As to the standards established by the committee, Dr. Delbridge's report went on to say:

Standardizing Saybolt Universal

"The first step in the standardization of the Saybolt universal viscosimeter was to select a reference oil which would not change in viscosity with time and to distribute this oil to the laboratories of members of the committee. When this oil, known as A. P. I. Oil No. 1, was tested according to methods which the committee members considered most accurate and on Saybolt tubes which they considered standard, the average time of flow was 181.4 seconds with reported values varying from 180 to 182.7 seconds.

"Tests in the different laboratories on other oils of viscosities ranging from 92 to 500 seconds at 100 F., led to the conclusion that tubes of standard dimensions which agree at one viscosity would agree at all others and that therefore one oil was sufficient for the calibration of a viscosimeter tube.

"The Bureau of Standards was accordingly asked to adjust two Saybolt universal viscosimeter tubes (A29 and A30) to give a time flow of 181 seconds at 100 F. for A. P. I. Oil No. 1, using the same method of operation as had been used by the committee in arriving at this time of flow. One of the tubes, so adjusted, was circulated and examined in the laboratories of the committee members and was found to give an average time of 180.99 seconds, with a maximum of 181.26 and a minimum of 180.5 seconds.

"At a meeting in Washington it was agreed that this tube (A29) should be regarded as the Bureau of Standards master tube for the standardization of all Saybolt universal viscosimeters. It was further agreed to indorse the practice of the Bureau of Standards of certifying linear dimensions and time of flow of all Saybolt universal viscosimeters which they standardize. These certificates also specify the corrections to be applied. Certificates as to linear dimensions only are not to be issued.

Agree At Different Temperatures

"The question arose as to whether tubes which agree at 100 F. will agree at 210 F. i.e.; whether standardization at one temperature is sufficient. It was found that tubes which gave a time of flow of 181 seconds on A. P. I. oil No. 1 at 100 F. gave concordant results at 210 F. and equally concordant results could be obtained with other tubes when the necessary corrections were applied to observed readings. The A. S. T. M. method D—88—23T was used in the determination of viscosity at 210 F., modified by heating the water bath by

CORRECTION TABLE FOR SAYBOLT UNIVERSAL VISCOSIMETER

Observed Time	Corrections to be Substracted				KV Master Tube	Corrections to be Added			
	sec.	sec.	sec.	sec.		sec.	sec.	sec.	sec.
32	0.4	0.3	0.2	0.1	.0115	0.1	0.2	0.3	0.4
40	0.5	0.4	0.3	0.1	.0417	0.1	0.3	0.4	0.5
50	0.7	0.6	0.4	0.2	.0740	0.2	0.3	0.5	0.7
60	0.9	0.7	0.5	0.2	.103	0.2	0.5	0.7	0.9
70	1.2	0.8	0.6	0.3	.130	0.3	0.6	0.8	1.2
80	1.4	1.0	0.7	0.3	.156	0.3	0.7	1.0	1.4
90	1.6	1.2	0.8	0.4	.181	0.4	0.8	1.2	1.6
100	1.8	1.4	0.9	0.4	.206	0.4	0.9	1.3	1.8
125	2.4	1.8	1.1	0.5	.266	0.5	1.1	1.7	2.3
150	2.9	2.2	1.4	0.7	.324	0.7	1.4	2.1	2.8
175	3.4	2.5	1.7	0.9	.381	0.9	1.7	2.5	3.3
200	3.9	2.9	2.0	1.0	.437	1.0	2.0	2.9	3.9
225	4.4	3.3	2.2	1.1	.492	1.1	2.2	3.3	4.4
250	4.9	3.7	2.5	1.3	.548	1.3	2.5	3.7	4.9
275	5.4	4.0	2.8	1.4	.603	1.4	2.8	4.0	5.4
300	5.9	4.4	3.0	1.5	.658	1.5	3.0	4.4	5.9
Over 300	2.0%	1.5%	1.0%	0.5%		0.5%	1.0%	1.5%	2.0%

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the injection of steam. With an oil giving an average time of flow of 215.9 seconds at 210 F. the reported results, corrected when necessary, varied from 214.3 to 216.9 seconds.

"At a meeting of the committee it was decided:

"1. That a water bath heated by injecting steam shall be used for the determination of viscosity at 210° F., the bath temperature, not exceeding 212° F., to be such as will maintain thermal equilibrium in the oil tube.

"2. That Saybolt universal viscosimeters shall be standardized at 100° F., keeping the water bath at such temperature, not exceeding 100.25° F., as will maintain thermal equilibrium in the oil tube.

"3. That one oil (A.P.I. Oil No. 1) shall be used for the standardization of the Saybolt Universal Viscosimeters.

"4. That the table (on preceeding page) of corrections shall be used:

A single column of the table gives corrections for tubes which, at viscosities above 300 seconds, universal, show a deviation from the Bureau of Standards master tube amounting to the value given in per cent at the bottom of the colum. At lower viscosities the percentage of deviation would be variable and the correction is given in seconds. When a tube is certified by the Bureau of Standards the column of corrections applying to that particular tube is given on the certificate. This table of corrections was prepared by the U. S. Bureau of Standards and approved by the A.P.I. committee on viscosity standards.

"The general equation used in deriving the table is as follows: (1) KV =At—B/t and is applicable only to 125 seconds for the Saybolt universal viscosimeter with the B value of 1.9 and A value of approximately .00226. At higher viscosities (above 200 seconds universal) (2) KV=Ct, with C value of approximately .00220.

"Between the regions where equations 1 and 2 apply there is a region for which no equation has been found and therefore, these values, as given in the tables, were calculated with the aid of diagrams.

"5. That corrections corresponding to the proper column of the table, as outlined above, shall be applied at all temperatures of test.

"The above recommendations of the A.P.I. committee on viscosity standards in so far as they refer to methods of test have been incorporated in the proposed tentative method D-86-24T of the American Society for Testing Materials and the committee feels that the question of standardization and operation of the Saybolt universal viscosimeter is now in satisfactory form and that a convenient method is now available for the oil industry to check up all their instruments so that in future no serious discrepancies will occur in reported results.

"The situation with the Furol viscosimeter was not as serious as with

the Saybolt universal, due to the fact that the Furol was devised and put into practice only recently. Nevertheless an investigation similar to that conducted in the case of the Saybolt universal was carried out by the committee and is briefly described here.

"A reference oil known as A.P.I. Oil No. 210 was selected and distributed to the laboratories of members of the committee. When tested according to the A.S.T.M. Method D—88—23T, modified by specifying water bath at 122.25 and 122.50° F., the average time of flow was 186.1 seconds with a maximum of 187.8 and a minimum of 184.9, using instruments considered by the members as standard.

"It was finally agreed to adopt the value of 186.0 seconds as the viscosity Furol at 122° F. of A.P.I. Oil No. 210, with the water bath at such a temperature (not exceeding 122.35° F.) as to maintain the oil in thermal equilibrium, 186.0 seconds being the average value on a Furol viscosimeter in good mechanical condition and conforming to the A.S.T.M. linear dimensions, with a room temperature of about 77° F.

"The Bureau of Standards was accordingly asked to adjust a Furol viscosimeter tube to give a time of flow of 186.0 seconds on A.P.I. Oil No. 210 using the same method of operation, as had been used by the committee in obtaining this value. The tube, so adjusted, was examined by the committee and was found to give an average time of flow of 186.8 seconds with a maximum of 188.5 and a minimum of 186.0 seconds.

"As this particular oil was not exactly suitable for standardization work, due to the dark color, another oil, known as A.P.I. Oil No. 200, was sent to the members of the committee. When tested in the adjusted Bureau of Standards tube, this new oil gave an average figure of 148.5 seconds, with a miximum of 149.5 and a minimum of 147.3 seconds.

"It was unanimously agreed that this tube (A-30) should be regarded as the Bureau of Standards master tube for the standardization of all Furol viscosimeters, and 148.5 seconds should be considered the viscosity of A.P.I. Oil No. 200 at 122° F. with a water bath not exceeding 122.35° F.

"It was further agreed to indorse the practice of the Bureau of Standards of certifying the linear dimensions and time of flow of all Furol viscosimeters which they standardize. These certificates also specify the corrections to be applied. Certificates as to linear dimensions only are not to be issued.

"It was also decided:

"(1) That a water bath not exceeding 122.35° F., that will maintain thermal equilibrium in the oil tube shall be used.

"(2) That the Furol viscosity shall be standardized at 122° F.

"(3) That one oil (A.P.I. Oil No. 200) shall be used for standardization of the Furol viscosimeters.

"(4) That the following table prepared by the Bureau of Standards and approved by the A.P.I. Committee on viscosity standards shall be used for correction.

A single column of the table gives corrections for tubes, which at viscosities above 100 seconds Furol, show a deviation from the Bureau of Standards master tube amounting to the value given in per cent at the bottom of the column. At lower viscosities the percentage deviation would be variable and the correction is given in seconds. When a tube is certified by the Bureau of Standards, the column of corrections applying to that particular tube is given on the certificate.

"Equation 1 before given, is applicable only to 40 seconds, with B value of 1.9 and A value of approximately .0224. At higher viscosities (above 80 seconds) equation 2 is applicable with C value of approximately .0216.

"The above recommendations of the A.P.I. committee on viscosity standards, as far as they refer to methods of test, have been incorporated in the proposed tentative method D—88—24T of the A.S.T.M. and the committee feels that the question of standardization and operation of the Furol viscosimeter is now in satisfactory form and that in the future no serious discrepancies will occur in reported results."

CORRECTION TABLE FOR SAYBOLT FUROL VISCOSIMETER

Observed Time	Correction to be Substracted				KV Master Tube	Correction to be Added			
	sec.	sec.	sec.	sec.		sec.	sec.	sec.	sec.
25	0.5	0.4	0.2	0.1	.486	0.1	0.2	0.3	0.4
26	0.5	0.4	0.2	0.1	.512	0.1	0.2	0.4	0.5
27	0.5	0.4	0.3	0.1	.537	0.1	0.2	0.4	0.5
28	0.5	0.4	0.3	0.1	.562	0.1	0.3	0.4	0.5
29	0.6	0.4	0.3	0.1	.586	0.1	0.3	0.4	0.5
30	0.6	0.4	0.3	0.1	.610	0.1	0.3	0.4	0.6
35	0.7	0.5	0.3	0.2	.730	0.2	0.3	0.5	0.7
40	0.8	0.6	0.4	0.2	.846	0.2	0.4	0.6	0.8
45	0.9	0.7	0.4	0.2	.960	0.2	0.4	0.6	0.9
50	1.0	0.8	0.5	0.2	1.072	0.2	0.5	0.7	1.0
60	1.2	0.9	0.6	0.3	1.292	0.3	0.6	0.9	1.2
70	1.4	1.1	0.7	0.3	1.507	0.3	0.7	1.0	1.4
80	1.6	1.2	0.8	0.4	1.804	0.4	0.8	1.2	1.6
90	1.8	1.3	0.9	0.4	1.939	0.4	0.9	1.3	1.8
100	2.0	1.5	1.0	0.5	2.155	0.5	1.0	1.5	2.0
Over 100	2.0%	1.5%	1.0%	0.5%		0.5%	1.0%	1.5%	2.0%

Rules for Handling Ethyl Gasoline Being Drawn

WASHINGTON, Feb. 2.—The question of what, if anything, the federal government will or can do about leaded gasoline, apparently, is in a nebulous condition. The report of the committee of doctors and scientists, when reduced to simplest terms, is, there is no public health hazard in ethyl gasoline "when properly handled in its distribution."

Transportation from one state to another is under the control of the Interstate Commerce Commission. That body, months ago, prescribed regulations for the handling of the lead itself. So far as known no one has ever tried to transport the leaded gasoline itself hence no question in connection therewith has arisen. It is believed, however, that if there were such a question the regulations covering the transportation of gasoline would be sufficient to cover it.

Surgeon General Cumming, however, is in consultation with the manufacturers of the basic blending product and with representatives of state health officers with a view to the formulation of rules for handling and vending the treated gasoline. It is understood that when such regulations have been drawn up they will be submitted to state officials, with a suggestion that they prescribe them.

The federal government has no jurisdiction to say how leaded gasoline shall be handled within a state. In view of the conclusion that no public health question is involved, the only thing over which the federal government has control is the transportation from one state to another. Health officers in several states indicated at the conference last May that they did not think the stuff at all dangerous. Unless the rules proposed are satisfactory to them from that standpoint, they can refuse to apply such rules. At this time such refusal, it would appear, would settle the question in such states.

Adds to Helium Reserve

WASHINGTON, Feb. 2.—Addition of a large area of public land to the Navy's helium reserve in Utah has been authorized in an executive order issued on recommendation of the Interior Department. The area totals 5155 acres directly adjoining the reserve in Emery county. The purpose of incorporating it in the reserve is to preclude the possibility of drainage from wells that might eventually be drilled outside the reserve's boundaries.

A recent survey of the structures in the vicinity by the Geological Survey differed materially from data previously collected and indicated the danger of drainage. Lands included in the area are withdrawn, subject to valid existing rights from all forms of settlement, location, sale or entry by the executive order. The Navy reserve in Utah is known as "Helium Reserve, No. 1."

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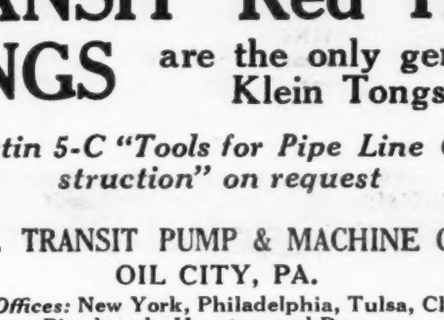

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Merger Announced of Allied Companies

Staff Special

KANSAS CITY, Feb. 1.—Consolidation of the Kansas City Refining Co. with its related distributing companies and absorption of the pipe line company and three producing companies owned by virtually the same group was announced this week by E. W. Goebel, president. The new company will be known as the Manhattan Oil Co. which is the same name formely held by three of the distributing units and the holding company.

Producing companies absorbed were the Indian Oil Co., Westgate Oil Co. and the Greenland Oil Co. These three companies will give the Manhattan Oil Co. a daily production of about 4000 barrels, most of which is in Greenwood and Butler counties in Kansas.

These properties are connected with the refinery at Kansas City by a pipe line which was built over a year ago under the name of the Manhattan Pipe Line Co.

The Kansas City Refining Co. is a 5000-barrel skimming plant. A large part of its production has been marketed through the allied distributing units, the Manhattan Oil Co. of Kansas with 44 bulk and service stations in Kansas City and northwest Missouri; The Manhattan Oil Co. of Iowa with 140 bulk and service stations in that state and the Manhattan Oil Co. of Nebraska with 64 bulk and service stations in that state.

Officers of the new consolidated Manhattan Oil Co. are Albert R. Jones, chairman of the board; E. W. Goebel, president; J. P. Howe, vice-president; E. L. Martin, treasurer; and James F. Getty, secretary.

The Westgate Oil Co. which was absorbed was owned by J. H. Reveley, Dean Gill, O. G. Bidler and E. W. Goebel. The Indian Oil Co. was a subsidiary of the Mission Oil Co. which was controlled by Albert R. Jones. The Greenland Oil Co. was owned jointly by the Manhattan Oil Co., which held a fourth interest and the four men mentioned in connection with the Westgate who owned the remaining three quarters interest.

Correction

In the article by R. B. Stafford on the Seaboard Oil Co. of Jacksonville Fla., in the Jan. 6 issue of National Petroleum News, there appeared a sentence stating that Seaboard did no business in Florida except preliminary surveys until May 1, when "it took over the distribution of the Indian Refining Co." This should have been "the stations" of the Indian instead of "distribution." Elsewhere in the article it was stated that Seaboard distributed Pure Oil Co. products. Distribution of Indian's motor oils in Florida is in the hands of Cox & Orloff, Inc., Jacksonville. Indian just discontinued its gasoline distribution in Florida as it has done elsewhere except in Illinois and four surrounding states.

Interest in Eastern Utah Areas Stimulated by Moab Well

CLEVELAND, O., Feb. 2

THE newest, and in several respects the most important or recent Rocky Mountain discoveries—the Cane Creek dome production near Moab, Utah—is commanding plenty of attention and activity looking to the development of the territory is increasing. (See N.P.N., Jan. 13).

Indicating that the production of the No. 1 Shafer well and others to be drilled by the same interests will be refined in Salt Lake City, the Utah Oil Refining Co. has filed in the United States land office at Salt Lake City application for easement through government lands for pipe line. The proposed line would run from the Cane Creek dome to Floy station, on the D. & R. G. W. railway, about 38 miles distant.

Midwest Refining Co. engineers are now surveying the route for the line. The Utah and Midwest are affiliated companies, both being controlled by the Standard Oil Co. of Indiana. In the application, the Utah says that the line would cost about $700,000 including pumping stations.

New rig has been completed over the No. 1 Shafer, the first one having burned. Material is being moved to the field for a well three-quarters of a mile from No. 1 and material is being brought in for a test on the Shafer dome, southwest of the Cane Creek.

Three miles west of Moab, and about 12 miles from the Cane Creek dome well, the Embar Oil Co. is preparing to complete a test drilled to 2,800 feet in 1924. This was a joint effort of the Big Six Oil Co., Embar and Western Allies companies. It did not reach the Pennsylvanian formations, which yield the oil at Cane Creek, but it found a number of showings of oil and gas at various levels, at 2200 feet being estimated at 200 barrels.

Scouting throughout Eastern Utah is active and many of the large companies, including Standard of California, Union Oil Co. and Marland Oil Co., are making careful examination of the territory. There has been quite a rush to obtain permits to government land, according to a statement made by the Interior Department, based on reports from Utah land Offices.

Permits to prospect for oil had been already applied for completely covering the Cane Creek dome and three other domes in the vicinity, many of these permits comprising the 2,560-acre maximum area allowed by law. Notwithstanding this situation, filing of applications for permits on available public lands in the entire surrounding territory has been started.

In describing the discovery, the Geological Survey said that the new well is of peculiar interest because it is the first to obtain commercial production from Pennsylvania rocks, which may underlie a number of anticlines in southeastern Utah and southwestern Colorado. The well, according to an investigation of the field made by the Survey, is known as "John C. Shafer, No. 1" and was drilled by the Midwest Refining Co. and the Utah Southern Oil Co. It is located in the gorge of the Colorado River at the line between Grand and San Juan counties in Utah. Production of the well is commonly estimated at 350 barrels a day of 38 gravity paraffin base oil derived from a sandy limestone at a depth of 2,028 feet. The government receives a royalty on all oil produced from the well.

A. I. M. E. Will Conduct Refinery Symposium

NEW YORK, Feb. 2.—Speakers for the symposium on refinery operations to be held under the auspices of the petroleum division, A. I. M. E., during the annual meeting in New York, have been announced. This symposium will be conducted on Monday afternoon, Feb. 15 and on the afternoon of the following day. If necessary to complete the program, part of Wednesday will also be devoted to discussion of the refinery group.

Dr. T. G. Delbridge, of the Atlantic Refining Co. and Dr. C. H. Osmond will preside at the refinery meetings. The program will be carried out as follows:

Character of and Principles Involved in Cracking Processes, by Charles L. Parmalee, New York.

Discussions:

Cross Process .....Dr. Roy Cross
Holmes-Manley Process .....
.....C. S. Holmes
Jenkins Process .....O. C. Smith
Dubbs Process ..Dr. Gustav Egloff
Burton Process ..Dr. R. E. Wilson
Fleming Process .....
..... Dr. R. H. Brownlee

Comparative Merits of Cracked Gasoline as Motor Fuel by Arthur E. Wells.

Economic Incidence of Cracking by Benjamin Brooks, Roland B. Day and Arthur Knapp.

Basic Changes in Refining Processes, speaker to be announced.

Special Discussions:

Distillation by Pipe Stills, ...
..... J. Primrose
Fractionation .....W. A. Peters
Treating, speaker to be announced
Wax Separation.....Leo D. Jones
Economic Effect of Basic Changes in Refinery Operation.....
.....Walter Miller

New Gasolines and Anti-knock Compounds, Dr. Sparrow, U. S. Bureau of Standards.

Discussion: Economic Effect of the use of New Gasolines and Anti-knock compounds A. L. Clayden, H. L. Horning.

The rest of the program will be carried out as published in National Petroleum News, Jan. 27, page 93.

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We See By The Papers—

Conscious and unconscious humor concerning the oil industry from the press of the nation.

National Petroleum News

Just Drill Them Smaller

Interview in the New York American explains how producers regulate the output:

"Producers and refiners of petroleum are now much better able than in the past to regulate supply in accordance with demand," said H. D. Williams & Co. in a review of petroleum history in the United States.

"Producers now drill wells largely in the hope of bringing in 500 barrels a day, as compared with the flush production of 10,000 or 15,000 barrels a day of former times."

The Filling Station's Wares

They'll soon rival a drug store for variety, judging from this note in the Independence, Mo., Examiner:

The Manhattan Filling Station at West College street and Forest avenue was broken into last night and two razors, several boxes of candy, cigars and cigarettes were taken. E. F. Norberry, the operator of the station, reported the burglary to the police department.

Elmer Couldn't Foresee Everything

From the Savannah, Mo., Reporter:

Elmer Bowman's removal of the Schuyler building to South Fifth street and then to the new highway where he has beautified and modernized it into a garage and service station was excellent forethought and wisdom, even if the wind did blow Mr. Bowman off the building the first of December and broke his leg.

The Obliging Yeggs

Although there was cash in the safe, the filling station owners found something humorous in the situation, reports the Eustis Lake, Fla., Region:

The cash register was not greatly damaged, but its contents were missing. An amusing side to the affair was that the safe was old, badly out of shape and the company had decided to have it carted away but the burglars saved this trouble.

Filling Station Orgies

They started this one, in Preston, Minn., off with solemn rites, according to the account in the Lansing, Ia., Journal:

Long before the residents of the new village were astir, an event worthy of mention took place. The sun rose in the East, as of old, and shone on rows of bared heads which were uncovered for the function. The ceremonies started at 7 a. m. sharp. But—wait, we must explain without any more evasion the reason of the gathering. It was the breaking of the first sod for the new "Sinclair Service Station." A full delegation of Preston's best citizens were on the site, waiting for the prospective owner's signal for the first blow to puncture the soil, when a bareheaded, coatless species of genius came ambling up the street in the person of "Moppy" Anderson, who claimed the right and honor of officiating at the ceremonies.

Those present were treated to a most entertaining address by Mr. A., the only regret being the audience had no way of recording it and the speaker, with his usual modesty, claimed the talk was impromptu and forgotten. But on leaving, Mr. Anderson graciously declined all thanks and wished the new firm unbounded prosperity, for which the owners promised "Moppy" the privilege of securing the first gallon of gasoline going through the pumps of the Sinclair Station at Preston, Minn.

South Dakota's Evidence

Woonsocket, S. D., News finds comfort in the presence of red beds (a blanket formation over all the Central Great Plains) with a note on how the driller is impressed:

It has been demonstrated that the red beds, which is a good indication of oil, extend all over western South Dakota as far east as Standing Butte. ....

The driller who has been on the job through all the trouble which was expensive and caused all the delays, is so satisfied with present showings that he is willing to contract drilling from now on, by the foot.

A Self-Adjusting Item

Oil Editor of the Tulsa World, being uncertain whether his story would be in the The Saturday or Sunday paper, played it safe and wrote up the meeting of the Tulsa Geological Society in such a manner that the reader could take his choice. The item appeared Saturday morning and the meeting was held that night. It read:—

Saturday night, Jan 23, Fanny Carter Edson will speak (or spoke) on "Criteria for the Recognition of Heavy Minerals Occurring in the Mid-Continent field."

These movable section lines are terribly trying on the nerves.

The Editor's Viewpoint

Tax Raid Again Starts

THE annual raid on the motorist's purse is on again, but to a less extent than last year only because this is an off year with most state legislatures. Legislatures are meeting in two of the four states that have no tax on motor fuels, in Massachusets and New Jersey, and bills have already been introduced calling for a tax of 2 cents per gallon in each state.

Bills have been introduced calling for increased taxes in Kentucky and Mississippi, each of which has a 3-cent tax at present. Kentucky politicians want to assess motorists 5 cents a gallon for their fuel and exempt from tax payment gasoline used for other purposes than motor fuel. In Mississippi 4 cents per gallon is sought on motor fuel and 2 cents per quart on motor oils. One-half of the receipts from the motor oil tax is to be applied to the state's highway program and the other half of it is to go into the general fund.

Oil companies and automobile clubs are opposing the plan for increased burdens on the motoring public but what success they may have is always doubtful. Few times have they been successful in overcoming political organizations that usually foster excise tax plans as means of getting more money to spend. Only two examples stand out. One was the veto of a gasoline tax measure by Governor A. V. Donahey of Ohio in 1923, but this veto was swept aside two years later and a 2-cent tax is now effective in Ohio. The other case was the defeat of a 2-cent measure in Massachusetts at a referendum in 1924. Massachusetts politicians are now making another assault.

Although handling the tax without compensation is a nuisance to the oil companies, many would be willing to cooperate with the state were the money so collected spent wisely. Unfortunately, tax proceeds are not always spent to the best advantage. Road contractors, who are usually parts of political machines, often fail to build roads to specifications, and road inspectors are lax, sometimes criminally, in granting approval of poorly constructed highways.

Road programs are often drafted with a view of increasing the value of some politician's land holdings instead of serving the most people. Poor materials are often used because some politician can make a larger profit on poor material than he can on better grade goods. This means that in a few years the roads will have to be rebuilt, whereas they might last for years were good materials used in proper construction. Roads recently built in many parts of the country have crumbled under the weight of ordinary motor truck traffic in less than a year after being laid.

It seems that this is a thing the oil companies and automobile clubs should fight—graft in road construction. Good roads mean increased automobile traffic and consequent greater demand for motor fuel and motor oils. While gasoline taxes are becoming unreasonable in size, constituting more than 20 per cent of the price paid by the motorist in several states, some sort of taxation on the motorist in additon to the war tax, car license fee, driver's license fee, and personal property tax, seems to be the order of the day. A rear seat driver's license has not yet come to our attention but this probably won't be overlooked for long.

As long as oil companies sit benignly by and say nothing they may expect to continue to be tax collectors and get nothing for their labors, not even in the form of increased patronage which might be expected to follow building of honest roads with gasoline tax receipts. State associations might work out some plans for relief and strive to put them through. Whatever is accomplished must be by organized effort and the quicker the effort is made, the better.—R. B. S.

The Oil Iudustry Is Ready

THE findings of the technical committee appointed last May by Surgeon General Cumming to investigate the public health hazard involved in the distribution and use of ethyl gasoline, enable one of the largest units in the automotive industry to proceed with the development of a high compression engine economical of motor fuel, yet developing the power that is now obtained by using more fuel in motors of lower compression ratios.

The trend toward higher compressions is evident. Concerning this fact Automotive Industries has the following to say of engines of cars displayed at this year's automobile shows:

"There is a gradual creeping up in compression ratios. This is probably favored by the decrease in the cylinder volume and by the better understanding of the laws of heat flow in combustion chamber walls, which has permitted of reducing the excess temperatures of hot spots. Possibly improvement in fuels also has been a contributing cause."

The oil industry without the use of tetraethyl lead or other compounds is prepared to supply fuels with anti-knock or anti-detonation properties for motors of higher compression ratios. The industry has the word of A. Ludlow Clayden, chief gas engine research engineer of the Sun Oil Co., for that. In his paper read before the American Petroleum Institute at Los Angeles, Mr. Clayden put the development of high compression motors squarely up to the automobile industry in these words:

"The use of higher compressions in gasoline engines does necessitate some alteration in the chemical constitution of gasoline, but that change is already under way and will take place rapidly during the next few years. How great that rapidity will depend very much upon whether the automotive manufacturers proceed to take advantage of it very soon or whether they neglect to observe their opportunity. . . .

"There is enough anti-knock gasoline being made today to take care of the requirements of hundreds of thousands of high compression cars. The production and distribution of such cars would be followed immediately by the necessary changes in the distribution of gasoline so that the anti-knock fuel would be obtainable everywhere. . . .

"The position today is that the petroleum industry has already, on the average, improved the detonation quality of gasoline considerably, and within the next five years can improve it a great deal more. Whether it will do so or not is in the hands of the automobile manufacturers."

That is a clear cut statement of the case. The report of Public Health Service investigators removes another of the automobile manufacturers' obstacles which may have been either real or fantastic. If there is a real interest to be served in giving the motoring public high compression cars, the oil industry will supply the fuel of required quality. It is ready.—R. B. S.

Gasoline Price is Nearer Crude Cost As Refinery Recovery Increases

By J. C. Chatfield
N. P. N. Staff Writer

TULSA, Feb. 1

THREE more gallons of gasoline were recovered by Mid-Continent refiners from the average barrel of crude in 1925, than from a similar barrel of crude in 1922. The 1925 barrel yielded 1.25 gallons more than the 1924 barrel and 1.9 gallons more than the 1923 barrel.

An examination of reports of the U. S. Bureau of Mines for 1922, shows that Mid-Continent refiners obtained 15.36 gallons of gasoline per barrel of crude or 36.57 per cent of the still charge. In 1923 this was increased to 16.17 gallons or 38.49 per cent, in 1924 to 16.83 gallons or 40.08 per cent. Government reports for 1925, now at hand, cover only the first 11 months. During that period the gasoline yield at Mid-Continent plants was 18.08 gallons per barrel or 43.04 per cent.

This increase in refinery efficiency is largely due to the consistent increase in cracking operations but may be attributed also to better fractionation in skimming and possibly by a better grade of crude. Some of the most prolific new fields of the last four years have been yielding high gravity oil.

Crackers Building Fast

Construction of cracking plants in 1925 has proceeded at a steady rate, particularly at the refineries of Independent operators who have had only skimming plants in the past. Independent refiners have concluded that the only means by which they can meet competition is by cracking. The day of the skimming plant, they believe, is past.

Current indications are that 1926 will see an even larger number of installations than 1925. The Universal Oil Products Co. at Chicago, owners of the Dubbs process, announces that it constructed and placed in operation 10 Dubbs units in the Mid-Continent field, exclusive of the Gulf coast, in 1925. These units have a combined daily capacity of 6,000 barrels of cracking stock.

This company is now constructing and will place in operation during 1926, 20 units of the Dubbs process which will have a daily capacity of 14,000 barrels of cracking stock. With such a large building program now under way before the end of January it is apparent that the yield of gasoline per barrel of new crude charged to Mid-Continent stills will be much greater in 1926. Builders of other types of cracking plants are, likewise, busy booking orders and building new units, some of the most active being the Graver Corp., builders of the Jenkins process, and the M. W. Kellog Co., builders of the Cross process.

Beginning with June, 1925, the Bureau of Mines began reporting the percentage of cracked gasoline produced in each field and in the entire country. During that month Oklahoma and Kansas refiners produced 24 per cent of their gasoline output by cracking while 26 per cent of the entire production of the country was cracked. In November, five months later, Oklahoma and Kansas gasoline was 27 per cent cracked which was the average for the entire country.

The following table shows percentages of gasoline produced by cracking by months for Oklahoma and Kansas refineries as compared with the total for the United States.

Table No. 1

	Oklahoma-Kansas	Total U. S.
June	24%	26%
July	24%	27%
August	26%	28%
September	24%	26%
October	26%	28%
November	27%	27%

The increase in gasoline recovery has exerted a strong influence on the sales price of gasoline as compared with crude. A comparison of gasoline markets with the price of crude for the last four years shows that the greater the number of gallons obtained by the refiners, the less premium he has been able to obtain for his finished motor fuel.

In 1922 when 36 gravity Mid-Continent crude brought an average price of $1.68 per barrel at the well on the basis of Prairie Oil & Gas Co. postings, the average spot market price for 58-60, 437 end point gasoline was 14.46 cents per gallon. This was 360 per cent of the cost of crude.

Relationship To Crude

In 1923 U. S. Motor gasoline brought 273 per cent of the posted price of crude and in 1924 it brought 235 per cent. Due to more satisfactory markets generally and particularly to their conservative methods of operations last year Mid-Continent refiners were able to sell their U. S. Motor gasoline for an average spot price of 239 per cent, a little more than in 1924. With the exception noted it will be observed that the price of gasoline as compared with crude has been reduced in direct proportion as the recovery of motor fuels has been increased.

Table No. 2 gives average prices per gallon of 36 gravity crude for the last four years, average prices of 50-60 U. S. Motor gasoline with the percentage relationship of the two figures. The table, likewise, gives the recovery of gasoline per barrel of crude at Mid-Continent plants during the same years for purposes of comparison.

As mentioned before the check in the decline of gasoline prices as compared with crude in 1925, was due largely to more conservative operations. During the first 10 months of the 1925 Mid-Continent refiners produced 25.27 per cent of the gasoline produced in the United States. In the same months they shipped 26.17 per cent of total shipments from U. S. refineries. At the beginning of the year this group of manufacturers had only 11 per cent of the gasoline inventories at refineries and on Oct. 31 they had cut this to 8 per cent of the total. With low stocks throughout the year they were enabled to sell from day to day without being threatened by the weight of burdensome reserves.

With all of the much discussed fluctuations in the price of gasoline in tank cars at Group 3 refineries it is surprising to see how steady the relationship of gasoline to crude has been during the last four years. Table No. 2 would indicate that a satisfactory basis for gasoline contracts might be worked out between refiner and jobber on the basis of crude costs. A few attempts have been made in this direction in the past but the idea has not taken hold in a big way.

Two years ago one refiner offered a contract on the basis of spot markets with a provision that the price of gasoline should not go below 250 per cent of the cost of crude. Some contracts were written on a crude basis only. The old Douglas plan which was never adopted because of its intricacy, was a combination of crude and tank wagon bases.

Table No. 2—Relationship of Gasoline Prices to Crude and Yields by Years.

(Prices in Cents per Gallon)

	1922	1923	1924	1925
Average Crude Cost per Gal.	4.0	3.6	3.9	4.44
Average Price per Gal. 58-60 U. S. Motor Gasoline (Group 3)	14.46	10.09	9.15	10.64
Gasoline Price in terms of Percentage of Crude cost	360%	273%	235%	239%
Gasoline Recovery per Bbl. of Crude at Mid-Continent Refineries	15.36 Gal.	16.17 Gal.	16.83 Gal.	18.08 Gal.

HAVOLINE FRANCHISE SUCCESS No. 4

Advertisement of Indian Refining Co., Inc.

"Never could get where we wanted to without tie-up with national oil"

Wide-awake Outfit in Buffalo Gets New Hold on Territory — Havoline Changes Customers' Buying Habits from Quart at a Time to Crank Case Refills.

"HAVOLINE at 30 cents a quart has actually lifted sales of our own Hy-Grade Oils at 25 cents a quart.

"In the last six months every one of our 65 service stations has shown a splendid increase in the sale of both Super Hy-Grade and 50-50 Hy-Grade gasoline.

"By its effect at our own stations and on our several hundred accounts in the City of Buffalo, Havoline has given us a new hold on our territory."

From that point, Van E. Tyler, sales manager of Hy-Grade and a veteran trained with two big Nationals, warms up with enthusiasm to the Hy-Grade expansion program for 1926.

"There will be several more of our de luxe type service stations put up during 1926—all with up-to-the-minute equipment. Our service station sales have shown a decided change in character since we added Havoline to our line. Customers are buying crank-case changes instead of a quart or two quarts at a time.

"We attribute this largely to the Havoline signs which all our stations display and to the Wasson Motor Check feature of Havoline advertising. At any rate, we began to notice the change as soon as the Havoline 'oil is power' idea began to get over. Nothing before had ever given us so much crank-case business, so it must be the Havoline hook-up.

"Right now you see Havoline Oils in bulk and Havoline Oils and Greases in all sizes of containers in evidence at every Hy-Grade station. Every Hy-Grade station built in 1926 will carry the same full line. Our experience shows that it pays."

With Mr. Tyler in the "driver's seat," Hy-Grade took over the Havoline franchise for Buffalo last mid-summer, and sold 25,000 gallons in the first five months.

HAVOLINE – the power oil

INDIAN REFINING COMPANY Incorporated

All Havoline gallonage existing in Buffalo was turned over to Hy-Grade as ready-made business when the Indian Refining Co. withdrew its own direct marketing forces.

Hy-Grade's own organization is admirably equipped to handle business in volume. Two bulk plants are located at strategic points in Buffalo. Eight 3,000-gallon tank trucks supply Hy-Grade stations and the dealer accounts. A sales force of four men, under Tyler's direction, are responsible for an annual motor oil volume of 150,000 gallons. Hy-Grade gasoline volume is 1,000,000 gallons per month.

A tremendous local business, enjoying a wonderful local reputation. The acquisition of a national oil was, therefore, a step that demanded the most serious kind of consideration. Arthur E. Maddigan, vice-president and general manager of Hy-Grade, tells this part of the story—and puts real feeling into it.

"This idea of handling a national oil didn't originate with Havoline. It originated with us—years ago," Mr. Maddigan states. "Our first five years in business showed us plainly that we could never get where we wanted to get without a worthwhile tie-up with some national oil.

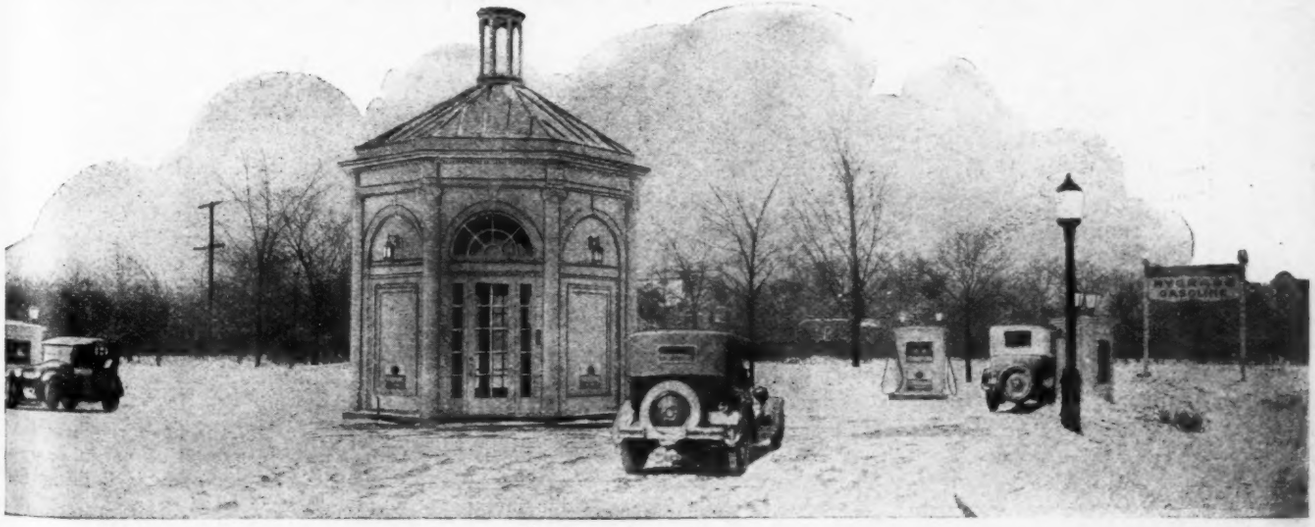
"We made several attempts. Several of the well-known nationally branded oils came and went, eliminated one by one because they did not bring desired results. And so we went on feeling that a national tie-up, although desirable, was next to impossible. We wanted something we could build up and hold onto. We needed some national operator to come in and play ball with us.

"The Wasson Motor Check demonstration I saw here in Buffalo early last summer got me interested in Havoline. The Motor Check, in revealing to the public the close relationship between power and motor oil, is enough to make any oil man think. There was no missing the effect it had on the public.

"Then we read Indian's announcement of an exclusive, protected franchise on Havoline in the trade papers. It rang the bell with me. Here was a national that knew what local oil companies were thinking. A protected, exclusive contract for a period of years and a free hand to develop business was something that no national had ever offered before.

"We will do better than 50,000 gallons of Havoline in 1926, a volume that is well within reach because of the energy and interest with which Indian supports our whole selling program."

(Outside Indiana, Illinois, Ohio and parts of Michigan and Kentucky (except territories already allotted), the Havoline franchise and Havoline support are open to local oil operators on a basis exactly like Hy-Grade's. Other things being equal, inquiries are given preference according to time of receipt. Wire or write A. H. White, Indian Refining Co., Inc., Lawrenceville, Ill.)



Builds Gallonage!

It delivers "Accurate Measure or No Gas"—and motorists like that.

Its easy-acting Flow-Lock must be accurately set before any gas can be served.

That's the meaning of—

Arkansas Petroleum Club Holds Love Feast after Battle

By A. F. Hinton
N. P. N. Staff Writer

EL DORADO, ARK., Feb. 2

TWO days after they had been divided into two warring camps the question of the waste of gas in the Smackover oil field, Arkansas oil men Monday night were re-united on terms of friendship, the hatchet was buried and the peace-pipe was passed around from hand to hand.

The occasion was one of the periodical meetings of the Arkansas Petroleum Club, and was the first of such meetings since new officers were elected last October. It was attended by 335 oil men from all over this part of the country, and was a highly successful occasion from every standpoint.

Victor H. Smith, president of the club, and vice-president of the Lion Oil & Refining Co., was toastmaster, and got away with it in very diplomatic fashion, considering the late unpleasantness, which is gone into in more detail elsewhere in this issue. John E. Shatford, of the Ouachita Valley Refining Co., was chairman of the entertainment committee, and went all the way to New Orleans to secure a quartet good enough to sing for Arkansas oil men and their guests. Instrumental music was provided by the Crusaders, a local orchestra of more than local reputation.

Standard Superintendent Speaks

After all those at the speakers' table had been introduced to the gathering, and attention had been called to the presence of other prominent men, such as Harry L. Norris, chief scout for the Prairie, in Tulsa, the first formal speaker was Col. W. C. O'Ferral, superintendent for the Standard Oil Co. of Louisiana, and vice-president of the club. Colonel O'Ferral's subject "Conversation," was a very timely one, and he handled it in an interesting and unimpassioned manner.

The colonel said that Smackover is the world's largest heavy oil field, that it now represents 25 per cent of all heavy oil production in the United States, and is the only oil field in the world whose production curve has gone upward for three successive years. He sketched interestingly the development of the field and the discoveries of its various producing horizons, and stated that the field's future hinged to a large degree on conservation of its present gas supply. He said that the oil now being produced from the Blossom sand is worth about $11,000 daily, while its gas is easily worth four times as much.

If properly conserved, he said, this gas will last the field for five years, estimating the necessary consumption at 100 million cubic feet daily. In arriving at this figure, he used 10,000 cubic feet per day for each 25 h.p. gas engine at a pumping well, a 150,000 cubic feet per day for each boiler used for treating and motive power. He estimated that if the field was forced through depletion of its gas to turn to oil for fuel, it would have to burn 10 per cent of its production to recover the remaining 90 per cent.

Lawyers Get Experience

Smead Powell, El Dorado attorney, spoke on "Relations of the Bar with the Oil Industry" and told in an interesting manner how unready the Arkansas lawyers were for the "city slickers" who descended upon El Dorado following the discovery of oil, and how they learned by bitter experience to convince themselves that everything was "on the level" before committing themselves or their clients to lease deals. On the whole, he said, their contact with the oil industry had been broadening and certainly profitable, and he paid a high tribute to oil men as a class.

The principal address was given by Dr. J. C. Futrall, president of the University of Arkansas, and one of the country's leading educators. Dr. Futrall, who was introduced by Joe K. Mahony, lawyer, as the "master of English diction in America today," lived up to that advance notice. His speech had little to do with oil, his principal message being a plea for the establishment of more industries in Arkansas, that the state's wealth may be increased, and its natural resources exploited as they should be.

Officers of the Arkansas Petroleum club are:—

Victor H. Smith, Lion Oil Refining Co., president.

W. C. O'Ferral, Standard Oil Co. of La., vice-president.

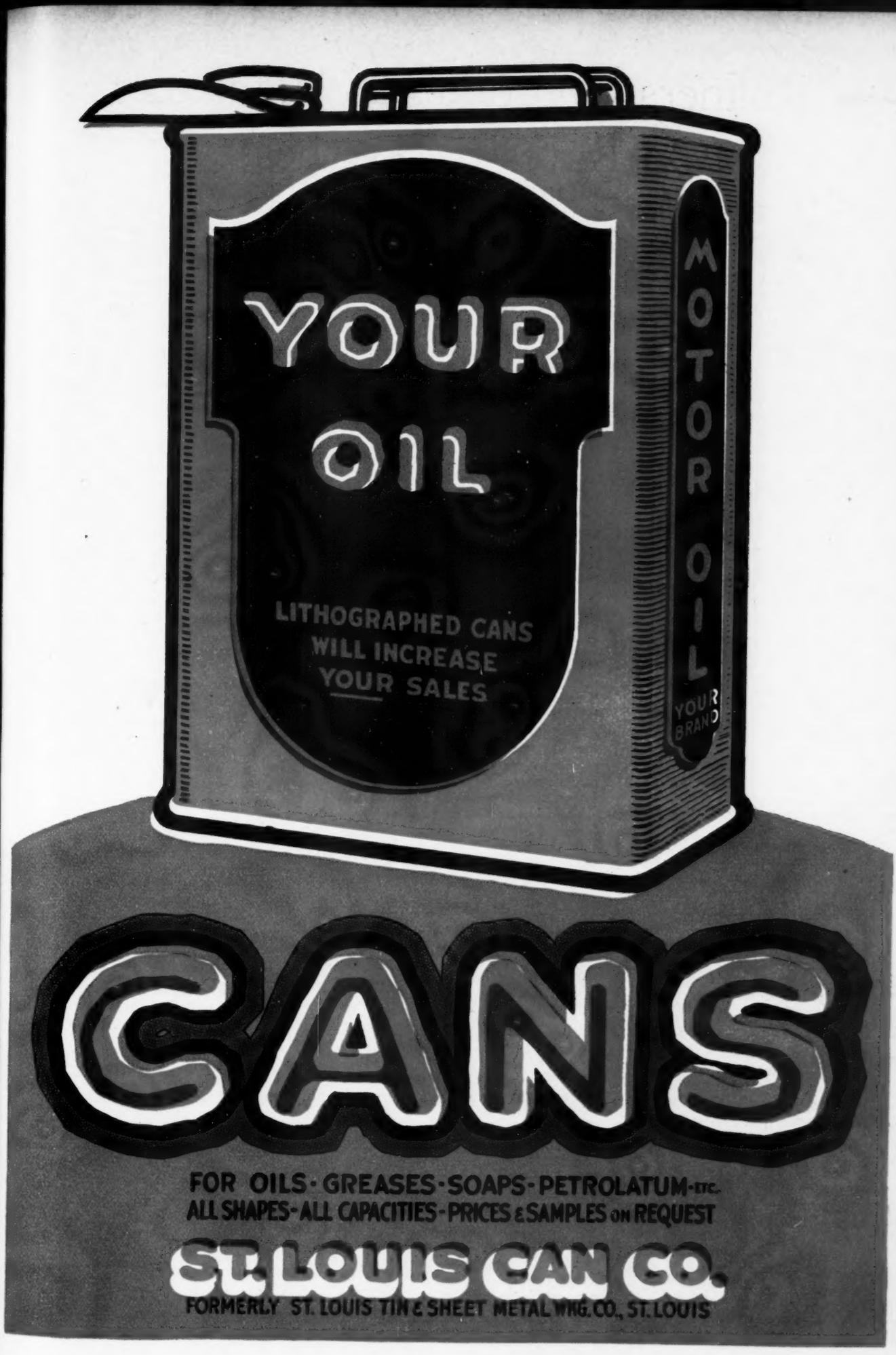
A. T. Woodward, Exchange Bank & Trust Co., treasurer.

James P. Lavery, Petroleum Supply Co., secretary.

Directors: Victor H. Smith, W. C. O'Ferral, A. T. Woodward, H. H. Rachford, Gulf Refining Co.; J. K. Mahony, Mahony, Yocum & Saye; H. H. Parks, Pure Oil Co.; J. E. Shatford, Ouachita Valley Refining Co.

ASH GROVE, MO.—The firm name of the Ash Grove Oil Co. was changed on Jan. 1 to T. S. Cross Oil Co. with offices here. No change has been made in partnership and no members have been added. The change was in name only, according to T. S. Cross, manager.

LANSING, MICH.—Pulver Bros. is entering its fifth year as distributor of Sinclair products in this territory. Two new service stations have recently been added, making a total of seven drive-in stations. The company is looking forward to a very good year.


YOUR
OIL
LITHOGRAPHED CANS
WILL INCREASE
YOUR SALES
MOTOR OIL
YOUR BRAND
CANS
FOR OILS · GREASES · SOAPS · PETROLATUM · ETC.
ALL SHAPES · ALL CAPACITIES · PRICES & SAMPLES ON REQUEST
ST. LOUIS CAN CO.
FORMERLY ST. LOUIS TIN & SHEET METAL MFG. CO., ST. LOUIS

Refiners Consolidate Complaints On Rates to Southeast

Staff Special

WASHINGTON, Feb. 1.

ATTORNEYS for refiners interested in marketing Mid-Continent and adjacent refinery group products in the southeast are preparing to "shoot the moon" in their attack upon the freight rate situation in that part of the country.

Ed. P. Byars, attorney for the American Refining Co., in its complaint against that adjustment, has consented to a consolidation of cases on behalf of the Piedmont Oil Co., the Gastonia marketer in whom the Transcontinental Oil Co. is taking enough interest to go to the front with an application for re-consideration of its complaints involving, nominally, the rates on refined products to Gastonia, N. C., and the complaint of the Transcontinental. He is in correspondence on the subject with Willis Crane and W. W. Klingensmith.

The Tidal-Western Oil Corp., has filed a complaint attacking rates from Burkburnett, Tex., to Pearisburg and Bluefield, W. Va. It has asked that that complaint be heard with the case of the American Refining Co. That will make five complaints at the start and there may be more.

"Shooting the moon" in this instance will mean running the risk of the Interstate Commerce Commission treating these five as constituting a general investigation or as five pop-gun attacks. It has two rules it could use for denying preparation in any or all the complaints. In a general investigation it denies reparation on the ground that when it disposes of such a general inquiry it orders both reductions and increases and that therefore, inasmuch as the railroads cannot make the increases retroactive, shippers whose rates may be cut should not expect refunds.

"The other rule was applied in the Piedmont case which its attorneys are trying to have reopened. One of the grounds for dismissal of that complaint was that the whole rate structure was not attacked but only the rates from Fort Worth and Hodge to Gastonia.

Admits Rates Are High

While admitting that the rates to Gastonia are high in comparison with rates to other points in the southeast it said the attack was not upon the whole structure. Wherefore it thought it better to dismiss the complaint and allow the Piedmont company to suck its thumb for such consolidation as it could obtain through such an operation. Therefore the complainants run the risk of having their consolidation of the complaints treated as a general investigation in which event they would get no reparation unless the Commission should decide that it would not do to apply that rule now that so much criticism has been made of its decision in the Piedmont case, or of having each one dismissed for the reason set forth in that Piedmont case.

Mr. Byars has it in mind to have the American Refining Co. case set for hearing at Fort Worth about March 15 or a little later. He has been inquiring of the others if that would be agreeable to them.

Application for the rule laid down in the Piedmont case for the dismissal of two complaints filed by the Lone Star Gas Co. has been recommended by Examiner Paul O. Carter, in a report made on the two cases to his superiors. The two cases embrace two questions, namely, whether absorption gasoline, shipped from the plant of the complainant at Petrolia, Tex., to Brunswick, Ga., should be given a lower rate than ordinary gasoline, and the reasonableness of a rate of 71 cents. The question as to the rate on absorption gasoline is raised because, as shipped to Brunswick it can be and is used only to blend with heavier cuts; that is, it is a raw material carrying the same rate as the product into which it enters as an ingredient. Usually rates on semi-finished articles are lower than on the finished products. Absorption and other gasolines used for blending are exceptions notwithstanding the fact that they are products of a conservation policy, for which the Federal Oil Board is working.

Cite Lower Rates

The Lone Star Gas people made many comparisons of much lower rates than 71 cents for the distance of the haul from Petrolia to the Brunswick group, among others a rate of 64 cents from Petrolia to Franklin, Pittsburgh and Philadelphia for an average haul of 1627 miles as against a rate of 71 cents from Petrolia to Brunswick for an average haul of 1182 miles over the routes to which the 71 cent rate was applicable. Yet the examiner, in the face of the fact that the roads in the south are the most prosperous, on the average, in the country, has repeated the almost age-old excuse that the Commission many times, has said that rates in the southeast should be on a higher level than in other parts of the country, ignoring the fact that the expressions on that subject were made when southern roads were not as prosperous as they are now.

He also repeated that the rates with which comparisons were made were due to pipe line competition in the southwest and west while rates from those territories to the east were made because of competitive conditions, leaving the implication that there is no competition in the southeast, although, in other cases the fact that there is a movement by water to the south Atlantic ports, has been set forth.

The examiner dismissed the contention about absorption gasoline not being a finished product by saying the facts of record did not warrant the publication of rates on it any lower than on gasoline.

Traffic League Campaigns

The oil people may get relief from what they deem the high level in the southeast on account of a movement with which they have no direct part. Reference is made to the crusade, so to speak, of the Southern Traffic League to force the Commission to recognize the fact that the southern railroads are making more than 5.75 per cent on the tentative value of their property, 5.75 per cent being the figure set by the Commission as a fair return for the roads in view of the fact that in calculating that return it permits them to deduct their income taxes as an operating expense before calculating it, 5.75 per cent being about equal to 6 per cent for those not privileged to count their income taxes as an expense item. The Southern Traffic League is of the opinion that there is need of a revision of rates in the south other than that proposed in the Southern Class Rate Investigation which has been going on since May, 1922, and on which the Commission has made a pronouncement as to what the rates should be, but has not been able to order in a new adjustment because so many unexpected quirks were found in what it said should be done. It is being held up pending their removal.

Would Extend Drilling Time

WASHINGTON, Feb. 1.—Bill introduced by Senator Cameron (S. 2461) provides that permit to prospect for oil and gas under the provisions of the general leasing act of 1920 may be extended for an additional period of two years if the Secretary of the Interior finds that the permittee has been unable, with the exercise of reasonable diligence, to begin drilling or to drill to depth specified by the existing law.

GENEVA, IA.—Local men have installed a bulk storage plant and brick filling station here. A 12,000-gallon storage tank has also been installed. Business will be done under the name of the Geneva Oil Co.

Opposes Pennsylvania's Gasoline Tax System

CHESTER, PA., Jan. 30.—The gasoline tax in Pennsylvania is different from that in other states in that the tax is collected by the state from the dealer and not from the refiner or jobber. W. F. Delehanty of W. F. Delehanty Co., Chester, is an eastern Pennsylvania distributor who is opposed to the present collection system because it leaves too many loopholes for the dishonest distributor to dodge tax payment and possibly cause marketing disturbances with his extra margin. Mr. Delehanty, in an interview given to a Chester newspaper, expresses his views thus:

"Garagemen, station owners, many fly-by-night men and other irresponsible persons, some of whom cannot buy 1 cent's worth of gasoline or oil from an oil company on credit, are by the present law, appointed tax collectors for the Commonwealth of Pennsylvania to collect two cents on every gallon of gasoline sold to the public of this state.

"The law itself is scandalous. There is not a representative or senator at Harrisburg who could hope to conduct his own business on this basis of handing out credit to every person with no expectation of ever being paid.

"I would say anyone, the state included, who conducts their business along this line, ought to be the losers.

"A man rents a station on a heavy traveled highway. He opens up in June sells vast quantities of gasoline and collects the tax. He is not required to report his sales for a period of four months thereafter and even then he can still do business until the season is over for if he does not report sales as required by law another month elapses before a check-up may be made. By this time the season is over and the dealer is gone. The state is the loser and one may say, deservedly so.

"There are many avenues open other than the one explained whereby persons may fleece the public and state out of the gasoline tax, and firms who do a legitimate business are compelled to meet the competition of these bootlegger gas men and other dishonest persons who pocket the gasoline tax as their profit.

"No one knows or can know the loss to the state under the present law. The answer is clear. Collect the tax at the source of supply instead of collecting from thousands of individuals who may, or may not be honest. I say collect from the half a dozen or so oil companies who control the supply."

Revised edition of the oil and gas fields map of Texas has been published by the U. S. Geological Survey. It shows several fields not on the 1924 edition and shows the approximate location of the Balcones fault. The map costs 50 cents.

Gasoline and Oil Filling Stations
and Steel Buildings

We manufacture the simplest to the most elaborate Stations. Put your own individuality in your Filling Stations—Let us help you work this out.

The Edwards Manufacturing Co.
524-544 Eggleston Ave. Cincinnati, Ohio

For extra heavy blow-off service

A Jenkins Extra Heavy Y or Blow-Off Valve is suitable for 250 lbs. working steam pressure or 400 lbs. water.

Each valve is fitted with a Jenkins Renewable Disc and Renewable seat ring. Its design allows a flow in line with the pine, providing an excellent valve for use in handling thick fluids. Jenkins Valves in standard, medium, screwed, and extra heavy patterns for practically every valve requirement. At supply houses everywhere.

JENKINS BROS.
80 White Street.....New York, N. Y.
524 Atlantic Avenue.....Boston, Mass.
133 No. Seventh Street.....Philadelphia, Pa.
646 Washington Boulevard.....Chicago, Ill.
JENKINS BROS., Limited
Montreal, Canada *London, England*

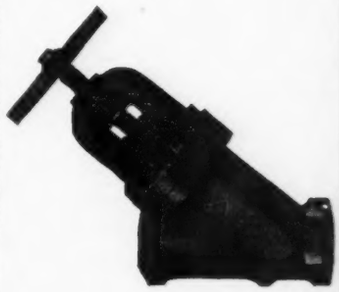
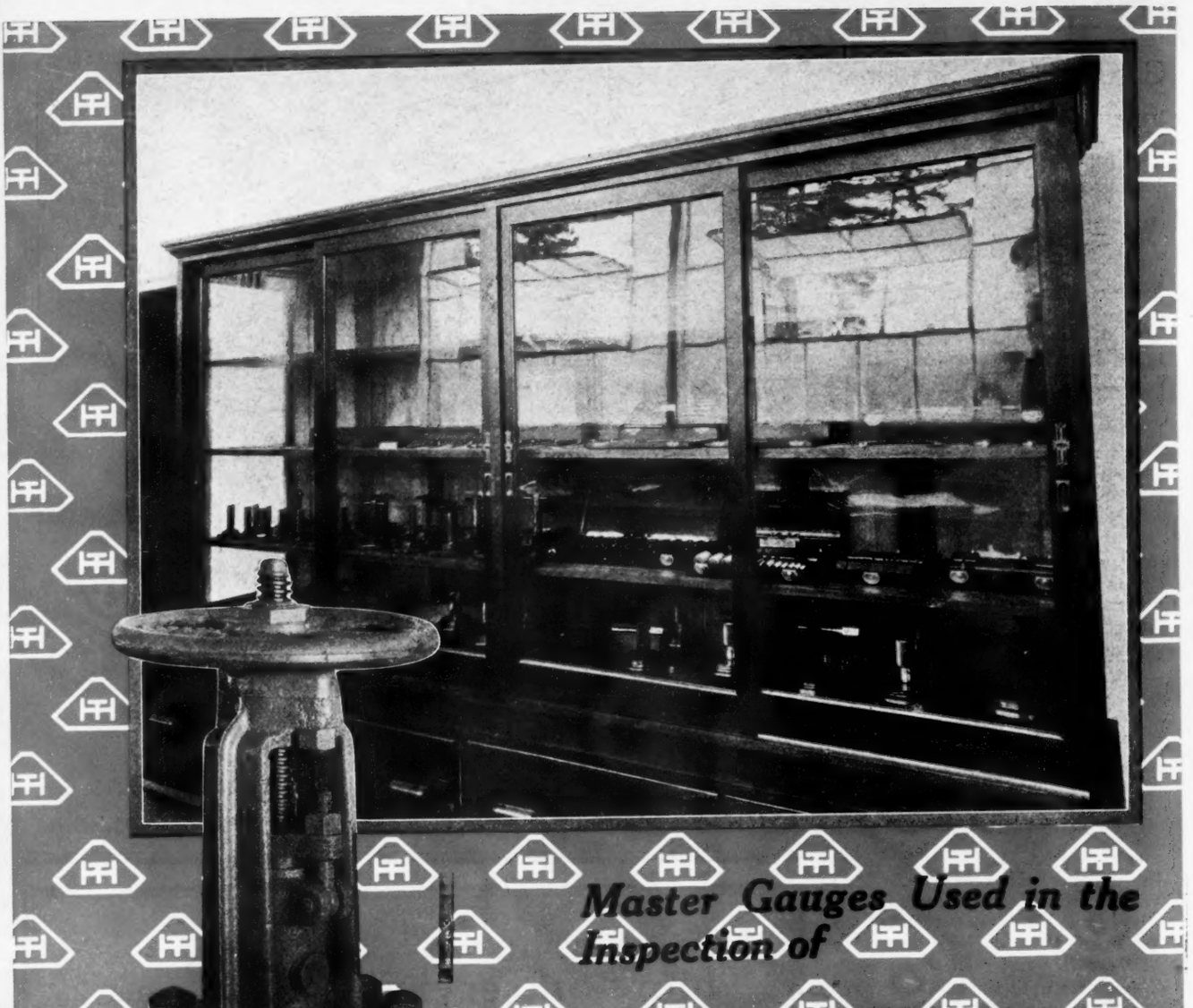


FIG. 336
Screwed, Jenkins Extra Heavy Iron Body Y or Blow-off Valve.

Always marked with the "Diamond"
Jenkins Valves
SINCE 1864



Master Gauges Used in the Inspection of

HUGHES VALVES

to Insure Interchangeability.

HUGHES TOOL COMPANY

Branch Plants
Los Angeles, Calif.
Oklahoma City, Okla.

MAIN OFFICE AND PLANT
HOUSTON, TEXAS

Export Office
New York City, N.Y.

Wisdom and Foresight are Enjoined For Future of Production

By Paul Shoup
Southern Pacific Co.

Delivered Before Institute Convention at Los Angeles, Jan. 21

WE in the industry have accepted or have had thrust upon us, the great responsibility of supplying oil to carry on so large a part of the activities of the nation that, that which at first was a luxury, is vitally essential to everyday life in every corner of this country. It behooves us then with this responsibility to deal wisely and farsightedly with the future of production.

Up to this time the industry has met the tremendously growing demand adequately and well. I sometimes think we have been too modest in picturing the successful work the pioneers of the industry have done to maintain the supply in the face of this greatly growing need. By pioneers I mean those who have spent their money by the hundreds of thousands of dollars—yes, millions of dollars. Perhaps two or three hundred thousand dollars in one well alone in an effort to discover new sources of supply.

The problems of transportation, of refining and distribution have been met with equal readiness and equal efficiency. Indeed, I am not sure but that in distribution we have gone a great deal beyond the public need when we look at those miniature castles, sometimes two or three at a road crossing, where the sale of oil is incidental and all the comforts of home are furnished on the side without charge.

Question of Conservation

Recurrently someone brings up the question of conservation of oil upon the ground if it is not conserved shortly within some period of time ranging from seven to one hundred years, we will be without it, but as I understand it, conservation means that the individual shall have all the oil that he needs, gasoline, fuel or other products for a very reasonable price, but that somewhere, somehow, other people are to be deprived of oil for the benefit of years and generations to come. If somebody suggested that we conserve oil by the simple process of limiting the number of automobiles to be manufactured in the United States each year, there would be a roar that could be heard from the Atlantic to the Pacific.

When the oil is gone, if it ever is and none of us in our lifetime will be able to answer that question, human intelligence and ingenuity will find substitutes just as it always has found them heretofore when the thing in hand contributing to its welfare disappears. It is through necessity being the mother of invention that this country has made the greatest progress. We need to be put up against it now and then to awaken the powers of the human mind lying dormant which, insofar as we can determine, is illimitable in its resources.

The only conservation that is not simple conservation and the only one that is worth while, is that of economic efficiency whereby as far as possible unnecessary waste is avoided. Waste is attendant upon all human effort; no human activity is without waste but conditions in that direction can and are becoming continually better.

The oil industry can very properly claim credit for much greater economic efficiency than it had a few years ago. We ruin fewer fields and wells with water, we lose fewer wells in drilling and we are getting more oil out of the mile deep reservoirs we are tapping. We are controlling and utilizing the gas output very much better than we did formerly. It is along these lines that the industry can promote service.

Waste In Utilization

The waste in use is another question. It is a question that the oil industry can deal with but cannot control. If the public is wasteful in the consumption of oil, it is because the oil industry is too efficient in its production. The public is always wasteful with the thing that is cheap. It is hard to get people to pick up pins even though all day they may have good luck.

Economy and efficiency are apt to be promoted as the article used grows more dear in price. When gasoline is fifty cents a gallon throughout the United States, and it is not probable it will be in our time, then cars will be moved many miles more to the gallon than at present. The improvements will come in the automobile, in its design, in its weight and in the engines that move it, but I fear that as long as we have oil up and down the United States at prices so low that the cost of fuel in running an automobile is not much more than incidental, just so long there will be wastefulness in its use.

Legislation does not change human nature. Legislation restrictive upon the oil industry and on the prize held up for enterprise, might very well, before a great while, deprive the people of the United States of an adequate oil supply. I see little else that I can do except as it may constructively promote, largely by freedom from restrictions than by imposing restrictions, coordination of activities in drilling, transportation, storage and the like, so that there may be no unnecessary waste of energy and of material for bringing forth oil from the depths of the earth, transforming it into forms for use and delivering it to every householder whatever his need may be.

If we can reach the point where no two oil wells will be drilled where one will serve, perhaps, or where no two gathering systems will be built when one is enough, or where there will not be a multitude of refineries beyond the needs of the market in any locality, we will have achieved something. These things we must do within the industry and it may be that in their doing we will need freedom from some existing legislation in one direction and the cover of constructive legislation, under which to act, in another.

Trend Toward Mergers

I was told by a friend on the street the other day that I was not now half the oil man that I had been, and after some conversation he explained that he understood the principal oil company with which I had been associated was being consolidated with another. That is true and I look for further consolidations.

The development of oil, its manufacture and distribution to be efficiently and economically done, is, on the whole, a problem for organizations of size and capital in large aggregation.

I do not mean by this that there is no room for the small producer or a small refiner, but it is not he who will supply the national needs or has such reservoirs of oil, money or facilities as will meet these varying needs in widely scattered locations, and as long as a reasonable competition between companies strong enough each to take care of this is maintained, there is no reason why consolidation of companies should not proceed.

There has been a great waste in our industry in distribution. There is a multiplication of service stations and other contacts with the public that economically cannot be justified. There is so much gasoline and so much lubricating oil to be sold in any given section. Investments in facilities that can be supported by this public demand are unnecessarily limited.

It is perhaps the tendency on the part of all of us when we are making money, to expand. We all want our place in the sun. We want to be as big as the Indiana or the New Jersey or the Gulf

Rotary Lift

PROMINENT oil companies in all parts of the country are putting this hydraulic grease rack into service. Profits heretofore unknown are written on the books of Rotary Lift users every day. Read what the Waite Phillips Co. of Little Rock have to say.

WAITE PHILLIPS COMPANY
PRODUCERS REFINERS MARKETERS
HIGH GRADE OIL PRODUCTS
LITTLE ROCK ARK

SEPTEMBER THIRD
1 9 2 5

Automobile Rotary Lift Co.,
Memphis, Tennessee.

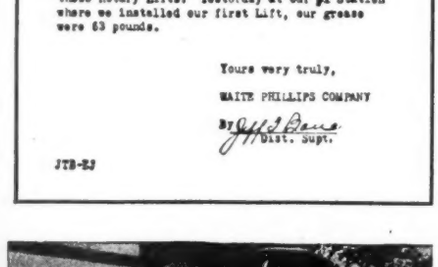
Gentlemen:

It is a pleasure to advise you that we have been obtaining wonderful results from the use of your Rotary Lift at two of our stations in Little Rock. We feel that it is a trade-getter, since prior to our putting the first Lift in at our #1 Station our gasoline gallonage as well as Lubricating Oil and grease business was slipping away from us. I attributed this to the fact that one of our biggest competitors were installing two Automobile Lifts of a different type at each of their Service Stations, and where completed they were continually busy.

Since the installation of our Rotary Lift and some advertising regarding same, our business has been increasing. We are well pleased with the results obtained from the installation these Rotary Lifts. Yesterday at our #1 Station where we installed our first Lift, our grease were 63 pounds.

Yours very truly,
WAITE PHILLIPS COMPANY
By J. T. Bass
Dist. Supt.

JTB-EJ



Picture shows Rotary Lift in service at Waite Phillips Filling Station. Workmen are Alemiting car and spraying springs. Note how easy it is to get under and around the car. Every running part easily accessible. No dodging around supports. Can men work better and quicker on their feet or flat on their backs?

Equipment consists of two channel iron tracks, 16 feet long, mounted on center piston. Piston works in oil and lifts car by hydraulic action. Pressure supplied by any compressed air system. Special spring spraying equipment with each Lift. Blue-prints and details for installation furnished.

Automobile Rotary Lift Co.
Memphis, Tenn.

or the Texas or some other large concern. We are perhaps unconscious of the fact that in adding to our business, aside from the division of the natural growth, we must take something from our neighbor and if he is strong and active as he is very apt to be, he does not intend to lose his business and strikes back by trying to take something from us or somebody else.

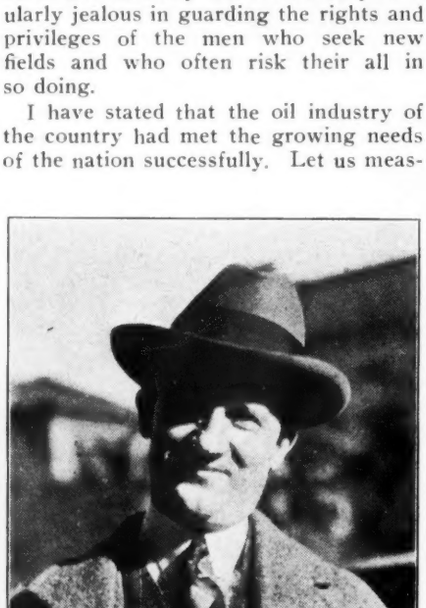
Millions of dollars are necessarily invested and wasted on this theory. Perhaps consolidation or communities of ownership among the oil companies will help in stopping this waste.

Judgment in Opening Fields

Aside from exercising good judgment as to when fields should be brought in, our principal responsibility to the public lies in constantly re-enforcing our present oil fields with new discoveries. Better that we use our energy and money in that way than to multiply facilities such as refineries, service stations and unnecessary competition with each other. Every time we discover a new oil field we add to the riches of the world, but every time we put a dollar in structures above ground we put a burden on the unknown oil below ground to support and amortize the oil.

Man may have the genius of an Aladdin but constantly he is but the servant of someone else. When he discovers these new fields, he adds to the power and energy of the world, he places at the command of the country, potential transportation in a tremendous way and so in this industry we should be particularly jealous in guarding the rights and privileges of the men who seek new fields and who often risk their all in so doing.

I have stated that the oil industry of the country had met the growing needs of the nation successfully. Let us measure but briefly these needs as illustrated by a very few figures. In 1920 there were 2,107,329 automobiles sold in the United States; in 1923, 3,744,777; in 1924, 3,600,000 and in 1925, 4,400,000. The increase in the last five years has been greater than the entire number sold in 1920.



John R. Suman, vice-president Rio Bravo Oil Co., Houston, Texas. (N. P. N. Staff photo at Los Angeles meeting, A. P. I.)

The automobile companies have never had a year equal to the one just closing in prosperity because of the great demand for their machines. All of these machines will be working next year. All of the old ones that can either wiggle or wobble will still be burning gasoline. The automobile industry should in its activities but mirror the situation of the oil industry.

The coming year should be one of prosperity for the oil companies. The outlook is for a less production in 1926 than in 1925, unless some very considerable new field is brought in. California will certainly produce less oil the year coming than in the year closing; that seems the outlook generally throughout the United States.

Effect of Over-Supply

I have within the past three or four years used the phrase—our spring blossoms failed to bring forth fall fruit—for the reason that each year, looking forward to the great demand of the succeeding year, we have apparently bent our energies to the utmost to make that demand unprofitable for ourselves by creating an oversupply of products.

We have not capped our wells when they should have been capped. We have drilled fields when they could have been left untouched. We have run refineries at full capacity that should have been on a half-time basis. We have built new refineries here, there and elsewhere, some in the oil fields and some at centers of consumption. We have multiplied service stations and other distribution facilities. All of these things we have done in the last few years and have done them unnecessarily.

Oil has not been wasted because we have backed it into tanks and reservoirs built at much expense but our spring hopes have been productive of too much enterprise. I hope this year the fact, quite apparent, that there will be a larger consumption of oil products than ever before, will leave us a little cold and with our money in our pockets. I know quite well with the facilities we now have, with the oil we will produce and that which we have in storage, there is no possibility of shortage within the next twelve months.

The way to promote a principle is to adopt it at home. The way to make use of an idea is to put it into practice. Personally, the men who are here today represent the oil industry of the United States. They are responsible for the major activities of the larger part of that industry. If they conclude without regard for what their neighbor may do, that they will this coming year act with conservatism and accept the responsibility for over production of effort of any kind in their own fields of activity, this then will be a prosperous year for the oil industry.

Getting the Public to See the Oil Industry as It Really Is

By C. C. Herndon,
Vice-president and Counsel, Skelly Oil Co.
Delivered Before A. P. I. Convention at Los Angeles, Jan. 21

THE oil industry has been traditionally misunderstood and maligned. The case goes back many years to the time when perhaps the industry was not always guiltless of restraint of competition and when dominant interests were not always vigilant to discountenance unfair practices. The people learned to dislike and fear the industry then, and crafty politicians played upon that dislike and fear by every subtle art, and used denunciation of the industry, then commonly indiscriminately referred to as Standard Oil, as a platform on which to gain places of political preferment.

Within the span of about 15 years following those earlier days, the industry underwent a change as profound in character and result as the emergence of civilization from the darkness of the middle ages. But the people were not told of this industrial renaissance, and politicians of the destructive type continued to harass us. Our public relations drifted from bad to worse, and the condition reached a damaging climax two years ago.

It will be remembered that in the spring of 1924, a particularly vicious attack on our industry was in progress. Blatant demagogues and the sensational section of the press were fanning an inflamed public mind to embrace the whole industry within the condemnation of individuals whose alleged conduct, as exploited by a Senate investigation then in progress and as distorted and capitalized by scandal mongers, had aroused the wrath of the people. In the heat and clamor of the moment, the voices raised here and there in our defense could not be heard.

It was almost incredible that a great industry, typifying the highest achievements of American financial and commercial genius, could be so inarticulate, so at the mercy of its traditional enemies. But we had been busy with material development, with our tremendous war effort, with post-war readjustments, and with meeting an increase at such prodigious rate in the need for our products that its story would be as marvelous as a tale from the Arabian Nights.

Industry's Story Neglected

So deeply had we been absorbed in these affairs and in financial problems arising from a succession of unprofitable years that we had neglected to provide facilities through which the people might come to know and understand us, and through which we might, in such a conjuncture, have delivered to a public predisposed in our favor an effective protest against the indictment of a national industry for the act of an individual. In common with oil men everywhere, I was indignant at seeing our traducers quoted at length on the front pages of the newspapers daily, while our industry was perforce silent.

Observing our silence and our impotence, the people could not be greatly blamed for adjudging the case against us, it being a reasonable assumption that if we had a defense we would present it.

Fortunately for the industry, the condition was not hopeless. The American Petroleum Institute had come into being several years before and had sponsored several movements of common concern. It was the only body representing all branches of the industry on a national scale, and it had in its directorate men who were not only captains of industry but industrial statesmen as well. The Institute was the logical body for undertaking an inquiry whether, and in what

Mr. Herndon's Creed for the Oil Industry

I BELIEVE in the oil industry. I believe in the men who compose it. I believe that our industry is unexcelled in patriotism and that its unfaltering support of our country in the Great War and its strict subordination of profit to service demonstrated its loyalty to the republic. I believe that it would meet any national crisis in the same spirit. I believe that the industry and its personnel are peculiarly American in type and character, racy of this soil from which they sprang, and that the industry preserves in its explorations and its hazards the romantic and adventurous spirit of the pioneers who wrought this nation from a wilderness.

"I believe that oil men are not surpassed by other men in plain business honesty; that, taken in mass, their business conduct is worthy of emulation by the men of any business, anywhere; and that the occasional misdemeanor of an oil man should no more convict our industry of vicious practices than the occasional default of a banker should bring opprobrium upon the honorable business of banking.

"I believe that the oil industry has been singularly free from profiteering in time of peace as well as in time of war; that in view of an increase in the consumption of gasoline equal to 500 per cent in the United States in the last ten years, the achievement of the industry in meeting that spectacular growth of demand without increase of cost to consumers reflects a degree of resourcefulness, energy and honesty which should evoke the pride and commendation of the American people rather than their resentment and condemnation.

"I believe that the oil industry is today one of the most highly competitive of American industries and that in none other does the law of supply and demand operate more directly and effectively. I believe that oil products, when cost of production, manufacture and distribution as well as utility are taken fairly into account, are the cheapest commodities sold in America, and that our industry has performed a feat of great brilliance in making these necessities of modern life so universally, conveniently and cheaply obtainable.

Americans Judge Fairly

"Finally, I believe that the American people in the long run judge fairly when they know the facts of a case fully; that suspicion and hostility often proceed from mere ignorance and misunderstanding; and that the oil industry will not be found wanting when weighed in the balance of an informed public opinion.

"Hence I believe that in all available ways the industry should endeavor to acquaint the people with its true story and to evoke sympathetic understanding of its problems and perplexities. And when that has been done, I believe that the people will concede our right to a fair profit proportioned to our investment and peculiar hazards and to the worth of the service we render; that we shall find relief from some of the excessive tax burdens now laid upon us and the goods we produce, and that hostile and discriminatory legislation will be more difficult of enactment because it will not be countenanced by public opinion."

A Bearcat for the Small Filling Station

The new Kellogg Bearcat puts a compressor within the reach of the small filling station that was never before regarded as being large enough to have one.

It contains units that have been developed as a result of twenty-five years specialization in air compression.

Backed by the regular Kellogg guarantee and produced at a price lower than that ever before known for a reliable air compressor, the new Kellogg Bearcat provides a splendid solution to the free air problems of the small stations.

The Bearcat
$149.20

⅓ horse power motor.
16 gallon tank.
Automatic control.
Completely equipped.

Kellogg Mfg. Co.
Rochester, N. Y.

KELLOGG COMPRESSORS

manner, understanding relation with the public could be cultivated.

Under authority voted by the board of directors at Forth Worth, a Committee on Public Relations was established and that committee has concentrated the responsibility in a Director of Public relations, for which post the committee has Judson C. Welliver.

But we are merely fatuous if we think for a moment that Mr. Welliver or any other man can by magic achieve the result we seek.

Oil men of all ranks will in my judgment, support the work because of their affection for and pride in the industry to which they have dedicated their lives and fortunes. Business has its spiritual side no less than its material side. "For what shall it profit a man if he shall gain the whole world and lose his own soul?" That question rings through the ages.

And what shall it profit our industry if we gain prosperity yet have not the confidence of the people? If we disregard ethics and hang the argument on the low peg of material self-interest, it is certain that prosperity not founded on public confidence will perish in our enjoyment of it.

I attribute to oil men generally the same opinions upon those points that I hold. Hence I count confidently upon their support.

An Oil Man's Creed

An oil man's creed might run somewhat like this:

(See text, page 59).

To the articles of that creed I believe all responsible oil men could subscribe. They form, indeed, the points of our daily faith and practice. And do they not form also, the foundation stones upon which we can build a better public understanding of our business?

L. A. Sheffield, who among other duties is in charge of marketing fuel oil for the Standard Oil Co. of New Jersey, New York. (N. P. M. Staff photo at Los Angeles meeting A. P. I.)

We should endeavor to secure the publication of facts and their true interpretation. Not less important is the conveyance of our message through advertising space frankly paid for and used as such. And at that point the complete co-operation of the industry is indispensible.

Practically all the larger companies and many small ones buy advertising space, and nothing is needed beyond the allotment of a reasonable part of that space to the public relations work. Such advertisements, rightly prepared and rightly used, cannot be deemed less important to the advertiser who signs them than his regular commodity advertisements, except upon the absurd premise that the whole movement toward better public relations is wrong.

What Helps One Helps All

Whatever benefits the industry benefits all members of it, and whatever harms one representative member harms all others. In providing advertising space for the message of the whole industry, the advertiser obtains whatever benefit the industry obtains, and shares in the benefits obtained from the like policy of other members of the industry throughout the country. An advertiser would miss the point entirely if he regarded as altruistic his action in thus alloting space for the publication of Mr. Welliver's messages. One cannot build a Chinese Wall around his business, and exclude public opinion. If public opinion be unfavorable, its damaging effect will reach your business and mine. The sensible course is to join heartily in the movement to inform and humanize public opinion, and convert it into valuable good will. The budget of the Institute will not suffice to pay for the publication of advertisements. Therefore publication must be accomplished through the members of the industry, co-operating with the Institute in making sure that the facts are accurately and effectively presented. Thus the public relations work will be harmonized and synchronized, and beneficial results can be obtained more surely.

A similar plan might be used in the distribution of leaflets and the like and to the use of posters on bulletin boards at filling stations. There are more than twenty million motor vehicles in this country, and their drivers are, of necessity, frequent visitors to the places where gasoline is sold. It is likely that forty or fifty million adult persons (since most cars are used by two adults or more) visit the stations as frequently as once each week or two. A large proportion of these stations are owned or controlled by members of the Institute. Is it not incredible that we have let this great field of public relations go untilled? Here is a vast audience of the very people whose understanding and support we most earnestly desire; they are assembled, figuratively, in our auditorium, and we sit before them dumb, apparently indifferent. A man newly arrived from

Mars would not believe it if we should relate it to him on oath.

As an example of quite different practice, consider the case of the railroads. You will rarely sit down in a dining car without finding under your hand a folder in such attractive form that you could hardly avoid reading it if you wanted to; and in the folder you will find a chapter from the splendid story of railroad achievement or an argument in support of the right of the railroads to public favor. In that fact lies one of the reasons why, within the space of six or seven years, we have seen the public's distrust and hostility toward the carriers turn by imperceptible stages into good will. We may be sure that the material so used is not prepared casually or by amateurs.

The work is skilfully, subtly done. Yet the plan rests upon the foundation of economic truth and the railroads are making an effort to deserve the good will they are winning. What the railroads have thus done, what other national industries have done we can do. No other industry began its work with better right to succeed than we have. And we will succeed.

The use of posters and leaflets at filling stations will not only convey sound information about our industry to our customers, so that we shall no longer sit dumb before them, but the material will serve another purpose. It will indoctrinate the station attendants and prepare them as teachers of sound economics.

If I were not confident that the necessary cooperation will be cordially and intelligently given, I would not be confident of the success of this movement. I call upon executives of oil companies and upon oil men generally to see to it that cooperation does not fail at this vital point, or at any other point in the program which the coming months will unfold.

We are all subject in some degree to this human frailty; that we regard a thing as done when we have selected a good man to do it. Somebody said of the Democrats and John W. Davis: "They nominated a good man and then went off and left him." Having drafted a good man in Mr. Welliver, let us not go off and leave him. The work is yet to be done, and it is hard work and worthy work. The job is his in but a limited sense anyway. It is also your job and my job. He can only plan. We must execute.

Fire Destroys 34 Cars in Garage

FREDERICKSTOWN, MO.—A fire which destroyed the garage building of Fulkerson Bros. here, resulted in the loss of 34 cars which were in the building in storage. The garage was partly covered by insurance.

Work has been started on a larger and better building, according to J. Fulkerson, part owner.

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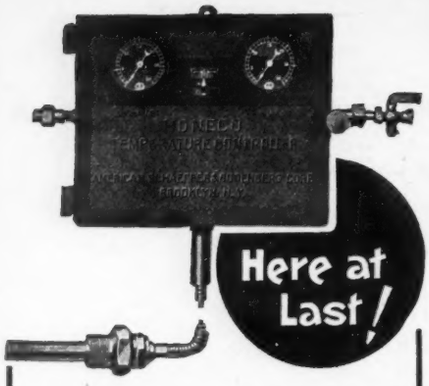

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Mexican Government Uses Press to Reply to Kellogg

WASHINGTON, Jan. 29

IN the eyes of those who have been dealing with the question of whether the petroleum and land laws recently enacted by Mexico are retroactive and confiscatory, the arguments on that point are again becoming ridiculous, just as they were five years ago. The government of the United States says they have the qualities of retroaction and confiscation. The Mexican government denies the allegation.

In the matter of publicity the Mexicans in the past week have outplayed the Americans. They delivered a note to Ambassador Sheffield either the 19th or 20th of January, in Mexico City. The note had not been received Jan. 23. It was in Spanish. The ambassador had to put it into English, then into code for transmission to the state department. That took time. In the ordinary routine of matters it would take two or three days to decode the answer so that after this is in print the American state department will know exactly what the Mexican foreign office said on the subject.

Rush into Print

But the Mexicans, through their embassy in Washington gave out a statement setting forth the position of their government, for publication on Jan. 20, days before Secretary Kellogg could possibly have been put into possession of the views they expressed via their foreign office. The embassy statement, as expected, denied the laws were either retroactive or confiscatory. Seemingly as a smoke screen, the embassy called attention to the fact that the laws of Arizona and Illinois forbid the holding of real estate by foreigners who have not declared their intention to become naturalized citizens, as an answer to mere statements, not in criticism either, that the new laws forbid the holding of real estate by foreigners in specified zones.

There is no issue at all between the two governments on that point. The right of Mexico to forbid the holding of real estate anywhere is admitted. It has never been denied. That is one of the few attributes of sovereignty about which there has been no argument. The only question between the two governments now is as to whether, notwithstanding declarations to the contrary, the statutes would deprive Americans of rights acquired prior to the enactment of Article 27 of the constitution and the statutes for its enforcement, or, in the event it did not take their property immediately, whether the necessary effect of the new enactments would be, in the course of years, to deprive them of property.

The Mexicans claimed they had an understanding with the government of the United States under which they made a public announcement of their position. They feign horror over a suggestion that the memorandum given American newspapers for publication on Jan. 20 is a paraphrase of the note the Mexican foreign office gave to Ambassador Sheffield, in answer to the note of the United States government delivered to the Mexican foreign office by Ambassador Sheffield on Jan. 9. They are horrified to learn that any one should think them so impolite as to do anything of that sort, giving out, in effect, a letter addressed to the Secretary of State before that official could possibly receive it.

Yet, the operation is a familiar one. The late Theodore Roosevelt was an adept at it. When he knew he was going to get into a controversy with anyone he beat that person to the newspapers with the story, thereby obtaining the first word on the subject and usually putting the matter in such a light as to force the other fellow's side into an unimportant place as what is known in newspaper parlance, as a "second day story." In answer to inquiries by newspaper correspondents, Secretary Kellogg gave out a statement to the effect that all the Mexicans had said was "old stuff" notwithstanding the fact that the statement went back as far as 1623 to state what was the law on the subject in hand, at that time, and tracing the law down to the present day, so they said. Mr. Kellogg said:

Kellogg's Statement

"The statement issued to the press by the Mexican Minister of Foreign Affairs comprises no facts or arguments which have not been fully dealt with in the official exchanges between the two governments. The position of this government has been and still is that the so-called land and petroleum laws contain provisions which are plainly retroactive and confiscatory in their effect upon property rights heretofore legally acquired and held by American citizens in Mexico under prior existing Mexican laws. This position, which does not in any sense question Mexico's sovereign right to legislate on her domestic concerns, has been made perfectly clear in the most frank and friendly terms to the Mexican government both formally and informally. Our last note on this subject was delivered to the Mexican Minister of Foreign Affairs January ninth. In the absence of any reply to that note, I am not disposed at this time to make any further public comment."

Standardization Director Reviews Work Accomplished at Los Angeles

By Carl A. Young

Standardization Director, American Petroleum Institute, Dallas

THERE seems to be a much keener sense of responsibility on the part of the operators with regard to the class and kind of materials necessary to carry on petroleum development work. Very substantial progress was made by the various American Petroleum Institute committees on equipment at Los Angeles and several reports adopted by the board of directors will be circulated in the near future.

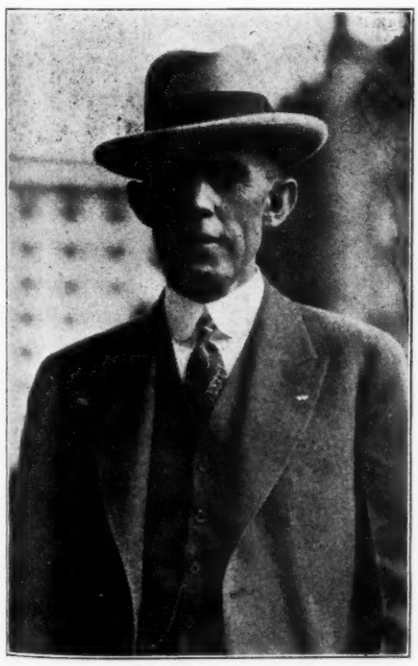
The interest that is being exhibited in this movement is especially noteworthy, because of the executives, field men and manufacturers who were all represented at the various conferences.

Some very interesting reports were rendered on the results of experimental work, tests which have been carried on and others in contemplation. There is a much better realization on the part of operators as to the aim of the Standardization division.

Considerable data have been collected on current practices and very complete analyses made, so as to arrive at a given standard. Following are some of the results accomplished at the Los Angeles conference:

Belting

As a result of several conferences and research work this committee has developed tentative specifications on the following classes of belting:



R. E. Allison, drilling contractor, Shreveport, La. (N. P. N. Staff photo at Los Angeles meeting A. P. I.)

Leather impregnated stitched cotton fabric belting. (Other than stitched rubber and balata belting.)

Solid woven hair belting.
Solid woven cotton belting.
Balata belting.
Rubber belting.

These specifications have been approved by the Board of Directors as tentative and will be printed and put into general circulation during the coming year. It is hoped that these specifications will be used by the various purchasing agents and engineers in the oil business, so that definite tests and results can be looked for, to the end that eventually final specifications may be drafted.

This committee has planned an extensive research program for the purpose of developing a fatigue test on belts. No attempt has been made by the committee to specify kind or class of material that shall be used in the manufacturing of the various types of belting, but rather an attempt has been made to set up the necessary limitations on the various elements necessary to produce a high grade product and give better service to the operators.

Boilers

This report has been completed. Four sizes of locomotive type boilers are standard, as follows: 30 H. P., 50 H. P., 65 H. P., 85 H. P., with two classes of working pressure—150 pounds and 175 pounds; 10 square feet of heating surface has been adopted as the basis for computing one horsepower. On workmanship and finish the committee has adopted the A. S. M. E. code, in addition to certain special types of construction which have been considered especially adapted for boilers to be used in the oil country.

A complete standard list of fittings has been adopted for each size, as well as sizes of steam and water connections, stacks, hand holes, etc.

Cable Drilling Tool Joints

This specification had already been adopted a year ago, but the committee reported very substantial progress on the introduction of these standards into actual use. The large group order which was assembled during 1925 has been practically completed by the gage manufacturers and it is expected that by June 1926, cable tools will be available with standard A. P. I. joints.

As a result of the gages being manufactured, a complete gage table has been set up, containing the essential measurements for the duplication of these gages for the future, which gage table has been adopted and will be added to the present A. P. I. cable tool joint specifications No. 3.

Underwood Nazro, vice-president, Gulf Production Co., Houston, (N. P. N. Staff photo at Los Angeles meeting A. P. I.)

Instructions for the testing of the gages were also adopted, which provide for a uniform method to be followed by the various custodians when testing the manufacturers' gages in the various districts. More than 40 manufacturing companies and oil companies have been granted the right to use the A. P. I. monogram on cable tool joints.

Standard Rigs and Derricks

Very substantial headway was made by this committee at the Los Angeles conference, following up the work done at the semi-annual conference in June. The committee is now in agreement on practically all of the essential dimensions of the standard rig, as well as the opening through the derrick.

The California district committee, however, brought forward a recommendation with a fixed water table opening for all heights of derricks, with a standard taper for the legs, which would result in a different size base for the various heights of derricks. It was de-

cided to suspend decision on this point until results could be secured from the California sub-committee as the result of actual experiments with this type of derrick. It is expected, however, that final conclusions can be reached on this report at the semi-annual standardization conference, which will be held in June, 1926.

Pipe and Casing

This report had already been adopted, on October 20, 1924, and very substantial progress has been made toward the introduction of A. P. I. casing in the field. Practically all of the larger pipe manufacturers have been granted the right to use the A. P. I. monogram on casing, and have secured the necessary gages, which have been approved by the Bureau of Standards. Some of the pipe manufacturers are now in position to deliver A. P. I. casing.

Several minor amendments, which are really amplifications and refinements, were presented and adopted as tentative.

Rotary drill pipe standards were definitely adopted. These standards had been prepared by the Special A. P. I. committee on the standardization of rotary drilling equipment, and will be issued as a supplement to the A. P. I. Pipe Specification No. 5-A. The following sizes of drill pipe are standard:

6⅝ in. O. D. (old nominal size 6 in.)
5⅝₁₆ in. O. D. (old nominal size 5 in.)
4½ in. O. D. (old nominal size 4 in.)
3½ in. O. D. (old nominal size 3 in.)
2⅞ in. O. D. (old nominal size 2½ in.)
2⅜ in. O. D. (old nominal size 2 in.)

It will be noted that drill pipe will be known by its outside diameter. The couplings have been increased in diameter to equal the outside diameter of the tool joints. This provides for a thicker, much heavier coupling on many of the sizes.

H. B. Simcox, general manager of production, Continental Oil Co., Denver. (N. P. N. Staff photo at Los Angeles meeting, A. P.. I.)

Standards on tubing were also adopted, subject to ratification by some of the districts which were not represented. This report provides for two classes of tubing, plain or standard tubing and external "upset." All the threads on the plain tubing are 11½ thread, which is practically standard at present, and all the threads on external upset are ten thread. Extra long couplings have been provided in both types of tubing.

Rig Irons

This report had already been adopted by the board of directors at the annual meeting in Fort Worth, in December, 1925, and six firms have been licensed to use the A. P. I. monogram on rig irons, as follows:

Oil Well Supply Co., Pittsburgh, Pa.
Oklahoma Iron Works, Tulsa, Okla.
The National Supply Co., Toledo, O.
The Parkersburg Rig & Reel Co., Parkersburg, W. Va.
Lucey Mfg. Corporation, Chattanooga, Tenn.
Western Iron & Foundry Co., Wichita, Kansas.

Several amendments and additions were adopted. Definite sizes of grooves were adopted for the casing line pulley and sand line shieves. Definite approval was also given to the sprocket and chain standards which had been promulgated by the committee on rotary drilling equipment. Provision has been made for the addition of a 6-inch crank shaft, 8 feet long. A double pulley sand reel has been added, the general dimensions of which are as follows:

Brake Pulleys—10-inch face, 42-inch diameter.

Friction Pulleys—14-inch face, 42-inch diameter.

Shaft 6-inch diameter x 10 foot long.

Pipe Drums 12 inches in diameter, one 24 inches long and one 12 inches long.

An extra heavy type of pitman stirrup was also added, to be made from 3-inch material to fit a 14-inch walking beam.

An estimate was made by this committee that, based on the 1925 consumption, the adoption of these standards represents a saving of $1,500,000 to the industry, which is divided roughly as follows:

8% to the Rig Iron User.
2% to the Rig Iron Manufacturer.
2% to the Steel Manufacturer.

Rotary Drilling Equipment

Two standards have been adopted by the board as a result of recommendations from the special A. P. I. committee on the standardization of rotary drilling equipment. Report No. 7, A. P. I. transmission standards, contains recommendations on standard shafts, keys and keyways, chain and sprocket tooth form. This sprocket tooth form was added to the report at the Los Angeles conference and is the result of research work by C. R. Weiss of the committee.

W. C. Woolf, of Keen & Woolf Oil Co., Shreveport; and "Gene" Palmer, Shreveport, of Smitherman, Palmer and Lane, discoverers of Haynesville, La.., field. (N. P. N. Staff photo at Los Angeles meeting, A. P. I.)

The A. P. I. sprocket form of tooth has been tried out during the current year and very favorable reports have been received from the various manufacturers and it was decided to include it in the transmission standards. Report No. 7-A, miscellaneous standards, was also adopted, which provides for standard methods of measuring hoisting blocks and double swivel drilling hooks, as well as establishing a standard taper for the drive bushing in rotaries.

As noted above, this committee completed its recommendations on rotary drill pipe. Upset drill pipe only is recommended. The work of the drill pipe committee has been very arduous and much credit is due the committee for the excellent work performed in arriving at this standard.

Report No. 7-B, dimensional standards for taper joints for rotary drilling equipment, has been carried over. It was decided not to make any definite recommendations on the tool joint thread at this time. Further tests are expected with the recommended A. P. I. Acme type thread. The committee, however, was in entire accord on the other threaded connections for fishtail bits, drill collars and grief stems.

The full details of the report from the Rotary Equipment Committee are listed in Standardization Bulletin No. 51, issued by the American Petroleum Institute.

Wire Rope and Manila Cordage

Tentative specifications have been adopted on Wire Rope & Manila Cordage, and the recommendation has been made to the users of wire rope that they purchase wire lines on the basis of these tentative specifications, with the request that data be kept on the results, both

as to usage and as to the tests made on the physical properties of the wire rope. Similar recommendation has been made for Manila cordage.

It is hoped that sufficient data will be gathered during the ensuing year to permit final specifications to be adopted at the next annual meeting of the Institute. These reports are very complete, in that complete recommendations are made on the care and usage of this material in the oil country.

Definite steps will also be taken by the committee to carry on further research work for the purpose of arriving at definite conclusions on which final specifications may be based.

Pumping Equipment

A very comprehensive progress report has been submitted by this committee and their recommendations on tubing have been adopted, subject to ratification by the various district committees. Reference has been made to this tubing report under the heading of the pipe committee.

In addition to the recommendations on tubing, definite recommendations were made on sucker rods on all of the various essential dimensions except the type of thread. There is a division of opinion between the operators and the manufacturers on the U. S. standard form of thread vs. the Whitworth type of thread. It is hoped to carry on some research work and tests during the present year which will enable this question to be definitely settled.

Recommendations on standard sizes of bolt holes for engines were adopted, but no definite steps taken toward establishing definite dimensions on bolt hole centers. It was felt by the committee that such a step would unnecessarily interfere with the individual designs of the various manufacturers.

It was recommended that the question of a definite basis for rating the horsepower of gas engines be considered, and this was referred to the manufacturers' sub-committee for further consideration.

Definite recommendations were adopted on working barrels, both as to size and lengths, as well as the tolerances for the inside dimensions. Recommendations were also made on the flange connections between the clutches and the gas engines.

It is expected that several of these items will be completed at the next semi-annual standardization conference of the Institute.

Tanks

Material progress was made by the Tank Committee. Reports were received from several of the various District Committees, but there was not sufficient time to properly correlate the various recommendations.

It is expected, however, that these recommendations will be correlated in the near future at which time a special committee on the drafting of specifica-

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Carl H. Beal, San Francisco, vice-president Marland Oil Co. of California. (N. P. N. Staff Photo at Los Angeles meeting, A. P. I.)

tions will be appointed for the purpose of drawing up tentative plans and specifications to be submitted to the various District Committees for their consideration. It is hoped to make definite progress in this Committee's work by the next semi-annual conference, to be held in June.

General

It was unanimously decided that the next semi-annual standardization conference will be held in Colorado Springs, June 14-16, inclusive.

The committees will immediately begin to plan on the work, looking toward this June meeting.

Gage Committee

It has been decided to appoint a standing committee on the question of gaging and gaging practice. The following committee has been appointed:

A. B. Steen, Chief Engineer, The Texas Co., Houston, Tex.

H. W. Fletcher, Chief Engineer, Hughes Tool Co., Houston, Tex.

Hollis P. Porter, Engineer, Gypsy Oil Co., Tulsa, Okla.

Clarence T. Mapes, Mgr. 21st St. Works, Oil Well Supply Co., Pittsburgh, Pa.

T. D. Davies, Assistant to the Vice President, National Tube Co., Pittsburgh, Pa.

Paul M. Mueller, Pratt & Whitney Co., Hartford, Conn.

H. W. Pearce, Director Gage Division, Bureau of Standards, Washington, D. C.

C. C. Scharpenberg, Assistant Manager, Standard Oil Co. of Calif., Bakersfield, Calif.

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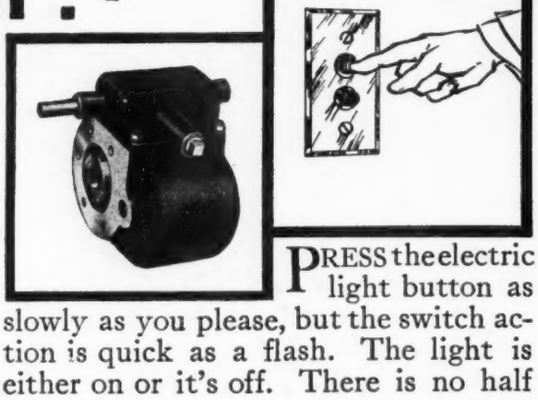

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on the question of various types and kinds of threaded connections, which will involve the use of specially made gages. There are many problems relating both to the manufacture of gages, tolerances, etc., and the class of fit that is desired for the work in hand, and it was considered advisable to appoint this committee of representatives from the various committees so that this work could be correlated.

Research and Test Work

As will be noted above, the work of several of the Standardization committees cannot be completed until additional tests and research work have been conducted, and at the meeting of the Board of Directors of the Institute on January 21, an appropriation was granted for carrying on this work. It is planned to head this research work which applies to standardization, under the general committee on standardization.

Eldred Refining Holds Meeting

WARREN, PA., Jan. 29.—The annual sales meeting of the Eldred Refining Co. of New York, Inc., was held Jan. 20 at the Hotel Rochester, in Rochester, N. Y. Managers of the various branches throughout New York state were present and reports were made on the business of 1925. Sales campaigns were outlined for the present year.

Comparative sales figures for the past five years showed that the Eldred Company, a subsidiary sales organization of the Pennsylvania Oil Products Refining Co., has made notable progress in its distribution of Eldred 100 per cent pure Pennsylvana products.

Officers of the Eldred Refining Co. of New York, Inc., are M. F. Cowden, president; H. S. Hayden, vice president; R. H. Kelsey, secretary and treasurer.

Buys Bulk Station and Adds Equipment

BELVIDERE, ILL.—A. B. James, service station operator, has purchased two new Graham tank trucks since the first of the year, one equipped with a 415 gallon tank and the other with a 530 gallon tank. These will be operated from the Poplar Grove plant.

Mr. James has just purchased a bulk station with 60,000 gallon capacity at Poplar Grove, Ill., from J. A. Anderson, wholesaler of petroleum products in Chicago. A 10,000 gallon tank has been added to the Belvidere bulk station for gas oil, providing a total capacity of 130,000 gallons storage.

Three service stations are operated by Mr. James.

JOPLIN, M.—Joplin Oil Co. is looking forward to a big business this year in its territory in southwest Missouri, according to C. B. Hood, manager.

The company is building a new steam-heated office and garage, and is enlarging its warehouse. New improvements will cost $10,000.

On Jan. 20 the company paid $2 per share in dividends, Mr. Hood says.

Proposes New Yardstick for Gasoline Quality and Refinery Control

By Paul Truesdell
N. P. N. Staff Writer

LOS ANGELES, Jan. 26

THE curtain which shrouds the full truth about motor fuel quality and its use with the greatest possible efficiency in the automobile engine, was drawn aside farther, probably, at the sixth annual meeting of the American Petroleum Institute which has just ended here, than it has ever been before.

Three papers delivered in the group sessions, seemed to pierce the future, allowing a glimpse of developments that are to come in the unceasing march of science toward the manufacture of an ideal motor fuel and its adaption to the engines that are to use it to give ideal performance.

The fleeting glimpse into the future is leading many technologists in the refining branch of the industry to believe that the industry has been more or less barking up the wrong tree in following the ideas and standards that up to now have served as guides in the manufacture and testing of fuels.

One of these papers that may serve as milestones was delivered by A. Ludlow Clayden, chief research engineer of the Sun Oil Co. This paper, which was published in the Jan. 20 issue of National Petroleum News, boldly asserted that the oil refiners are turning out an anti-knock motor fuel in quantity now and calling upon the automobile engineers to raise the compression of their engines right now; the oil industry will provide a fuel adapted to them.

Can Raise Compression Now

He stated that the automobile manufacturers would be safe right now in raising the compression ratio of their engines to 5 or 5¼ to one, as compared with the average ratio of about 4.5 to one now in general use. Such engines, he said, would operate satisfactorily on fuels now being furnished to the motorist in most territories and in such territories as do not have a satisfactory fuel the industry would hasten to furnish it once the demand became apparent.

Another of the milestones was the informal description by Dr. Gustav Egloff of the Universal Oil Products Co., Chicago, of a method he and his associate have worked out for measuring the anti-knock value of a motor fuel. A description of his method is published in the present issue of National Petroleum News.

Other petroleum chemists were inclined to challenge the value of Dr. Egloff's proposed method and the doctor himself admitted that it might be open to criticism at many points. However, it was generally held to be a valuable contribution to the knowledge of the subject, perhaps furnishing a starting point from which progress can march toward a practicable, simple and reproducible method which can be handled by an ordinary laboratory staff.

But the most important contribution of the meeting, in the opinion of most of the refinery technologists was a paper read by Dr. W. S. James of the Associated Oil Co., San Francisco, in which he described a method which he has worked out for testing gasoline quality and the apparatus he has designed for making the tests.

His method carries further and seems to prove in concrete form, the work on dew point temperature that has been carried out by R. E. Wilson, Standard Oil Co. of Indiana, W. A. Gruse of Mellon Institute, Pittsburgh, and others. It proceeds on a basis that is new to most of the industry, at least as a concrete, workable method of test. It appears that several workers have been groping in the direction of what Dr. James has discovered.

Dr. James' method departs entirely from the Engler which is the standard testing method for gasoline volatility at present. He does not concern himself with the precentages vaporized at certain temperatures as does the Engler method but instead, concerns himself with the amount of gasoline unvaporized at the operating temperature of the engine.

The Engine is the Judge

Neither the Federal Specifications Board, Committee D-2 of the American Society for Testing Materials nor the Bureau of Standards is the best judge of the quality of a motor fuel. The automobile engine is the real judge and Dr. James' discovery and the method he has formulated is the first time the question has really been put up to the automobile engine.

Dr. James for a long time has been thinking about the illogical situation that exists in the manufacture, testing and use of gasoline. He pointed out that the gasoline is made by continuous distillation, and is used continuously in the automobile engines yet the method of testing its quality is the batch method. He could not reconcile the results obtained by batch testing with the results to be expected from the continuous burning of the fuel in the engine.

So he devised apparatus and a method of using it that indicates not fanciful and arbitrary initial, 20, 50 and 90 per cent points and end points but which ties up exactly with the burning of the gasoline in the automobile engine.

For example, the temperature at which the automobile engine operates being known, the test apparatus can be set to operate at that temperature and the amount of gasoline remaining unvaporized can be determined. This amount of bottoms, as they are called by Dr. James, indicates exactly the amount of liquid gasoline that would remain in the cylinders of the engine to trickle down into the crank case and dilute the oil.

It is the unvaporized gasoline that causes dilution and by using gasoline that wholly vaporizes, or which leaves a very small percentage of bottoms, the dilution of the crank case oil can be greatly lessened. And by comparing the results obtained by the test apparatus with runs of an automobile engine, the gasoline volatility of greatest economy both from the standpoint of yield from the crude and non-dilution of the crank case oil can be determined.

The test apparatus operates at atmospheric pressure. By determining the temperature at which the greatest percentage of gasoline vaporizes in the test apparatus, the reduced pressure or degree of vacuum in the intake manifold of the automobile engine being known, its effect on lowering the boiling point can be determined and thus it can be figured at what temperature a sufficient quantity of the gasoline will vaporize to enable the engine to be started.

Work on Starting Suggested

There is considerable uncertainty as to the percentage that must be vaporized to make starting possible and it is suggested that the Bureau of Standards, the Massachusetts Institute of Technology, Mellon Institute or some similar authoritative organization equipped with the men and the apparatus necessary, do further work toward establish-

ing for the oil industry the percentage necessary to vaporize for starting.

Another phase of importance in connection with Dr. James' discovery which he passed over lightly in his paper is the place it may take in control of refinery operation. He discovered that the dry point temperature of the gasoline in his testing apparatus, that is, the temperature at which the gasoline is completely vaporized, leaving no bottoms, is the temperature that must be maintained in the top of the fractionating tower at the refinery in order to make a gasoline of that quality.

In other words, if the temperature at which the gasoline completely vaporizes in the testing apparatus is 350 F., the same temperature maintained in the top of the tower will give a gasoline of that volatility. Correction must be made in the tower temperature, however, for steam, if steam is used in distillation and also for the water in the crude which is turned to steam and of course affects the boiling point. It would be comparatively easy, it is said, however, to figure these factors and run the tower continuously at a temperature to give just the quality of gasoline needed to satisfy the automobile engine, instead of making a gasoline to satisfy the requirements of various boiling points in the Engler distillation apparatus.

It might be pointed out that if the ultimate purpose of a gasoline was to be distilled in an Engler flask, then it would be right and proper to maintain control of tower temperatures to accord with the prescribed Engler distillation range points. However, the ultimate purpose of the gasoline is to run automobile engines and therefore it is more important to turn out gasoline tailor made to fit the requirements of the automobile engine than to fit the requirements of the Engler apparatus.

In fact, the manner in which a gasoline made by James' method fits the automobile engine's requirements might be likened to the manner in which a suit made by a high class tailor fits a man as compared with the way a poorly cut and poorly made hand-me-down suit fits him.

A Poor Fit

Just as the collar of the latter may yaw away from his neck, the back pucker and the front wrinkle, so the initial 20 per cent and other points in the Engler classifications may yaw, pinch or sag when used in the automobile engine. It seems likely that refinery yield of gasoline can be considerably increased and at the same time, automobile engine efficiency improved if James' method is universally used instead of the present methods.

Still another phase of refinery control in which it seems likely that the James method will be useful, is for making tests on the stream coming over in the tail house. It would appear that the apparatus, or a slight modification of it to suit the purpose, could be connected by a bleeder line on every gasoline running line.

Then, every hour, every 30 minutes or as often as circumstances dictated, the stillman would open his bleeder valve and run 50 or 100 cubic centimeters of gasoline through the apparatus, the temperature of the testing machine being kept constant at the predetermined point by steam, which would be a simple matter. The stillman would have two graduates, in one of which he would catch the condensed vapor and in the other the bottoms. He would judge whether the stream was running all right by the amount of bottoms in proportion to the amount of distillate.

He would not have to do any figuring and his job would be simple. The man responsible for the refinery operation could set marks on the bottoms graduate and tell the stillman that if the amount of bottoms rose above that mark, something was wrong. If it was wrong, the stream could be immediately cut into a slop tank or elsewhere than into the running tank where it would spoil the quality of the product already run.

It would seem that this would be a great improvement over the present method of testing. Every so often now, the stillman draws a sample and a boy takes it to the laboratory. There it is tested for gravity and an Engler distillation test is made. By the time the boy gets back from the laboratory with the report, often an hour has passed.

If there is anything wrong, the stream has been running for an hour. Maybe a tank car has been loaded in the meantime with a product which will not meet specifications, which will be rejected by the buyer and will lead to expensive negotiations, loss of good will and possibly a lawsuit.

Technologists Agree With Him

When Dr. James read his paper at the group session on motor fuels, there was hardly a question or a comment made on it by the technologists present. The thing struck like a bombshell. It was brand new and it left them apparently, more or less stunned. The writer, however, afterward canvassed a number of the technologists as to their opinion of the new method.

There was not a single challenge of the statements or opinions advanced by Dr. James. Every man questioned expressed his belief that an important discovery had been made.

That being the case, it seems that no time should be lost in bringing the new method to the attention, officially, of the advisory technical committee of the American Petroleum Institute, Committee D-2 of the American Society for Testing Materials and the Federal Specifications board.

There was recently a battle, which the oil company technologists lost, between the refining industry and the Federal Specifications Board over the specified points in the distillation range of gasoline. At present the end point specification has been removed but the 90 per cent point remains at a temperature which many of the refiners are unable to make without sacrificing some of the possible yield of serviceable motor gasoline.

It would seem that the refiners should get together strongly behind the new method of Dr. James and push it into official recognition, wiping out the Engler method and substituting the James method both as the officially recommended method of Committee D-2 and as the official standard of the Federal Specifications Board.

Inasmuch as it is the automobile engine is the agency that has to use the gasoline it would seem logical to make the automobile engine the ultimate judge.

As a means toward encouraging the Federal Specifications Board to adopt the new method, it might be well to bring it before the attention of the Federal Oil Conservation board as a possible great means of promoting conservation of motor fuel both from the standpoint of yield from the crude and from the standpoint of greater efficiency in the automobile engine due to lessened dilution of the crank case oil with its attendant excessive wear on the engine.

It seems likely also, that Mr. James has given an important tip to the automobile designers. He has spent years on the automotive engineers' side of the fence and he knows their problems quite as well as he knows the oil technologist's problems. It has been recognized for a long time by C. F. Kettering and many others that great improvement in automobile engine efficiency would be possible if the engine could be made to run hotter.

At present, with present cooling methods, the automobile designer has to put on a big radiator on his car to insure sufficient cooling, say, if the car owner is going to drive across the Arizona desert with a temperature of 110 F. So, designed to meet the most extreme conditions that might be met, the radiator runs the engine too cool practically all the time.

While it was generally recognized that higher engine temperatures would give better efficiency, there has been up to now, so far as we know, no way to determine just how much higher temperatures would gain in efficiency. With James' method it could be readily measured. The higher the temperature the greater amount of a given gasoline could be vaporized, reducing the amount of bottoms, or a heavier gasolne could be used efficiently, giving the same percentage of bottoms as the present gasoline gives at the lower operating temperature. Thus it seems, if engine temperatures were increased, the yield of serviceable gasoline from the crude could be largely increased also.

Many technologists think that steam cooling of automobile engines is the an-

swer to this problem and that it is coming in the immediate future. With steam cooling it would be possible to get just the temperature desired in the engine to meet the most exacting conditions and the temperature could be kept higher under normal operation which is the condition under which engines operate about 99 per cent of the time.

Kansas Jobber Protests Q. D. A. Contracts

CLEVELAND, Jan. 30.—The quantity discount agreements which have been offered large users of gasoline by the Standard Oil Co. of Indiana since July 1, 1925, have caused no end of discussion among oil men in the states where the Indiana company distributes petroleum products. Most jobbers are opposed to the Q. D. A. contracts; others favor a limited discount to large consumers. A Kansas jobber has written National Petroleum News as follows:

"I believe the man that buys in larger quantities than the average man should receive a larger discount than the small man because it costs less to serve him. But there are limits to that discount. When discounting comes to the extent that Standard is doing it and undoubtedly for the simple reason to gain the advantage over their weaker competitors, I think there should be some way to check their scheme.

"Even discounting would not be so great a crime if they played it on the square; but they even go to the extent of combining several retail pumps owned and operated by different people and occupations under one head and prorate the discount to the number of gallons sold so as to give the larger discount.

"When a man has to give prizes of any sort to get his share of trade, he should not look for more. There is something wrong, and he ought to step out and find his line of business and give a man a show that can keep his end of the doubletree even with his competitor's end."

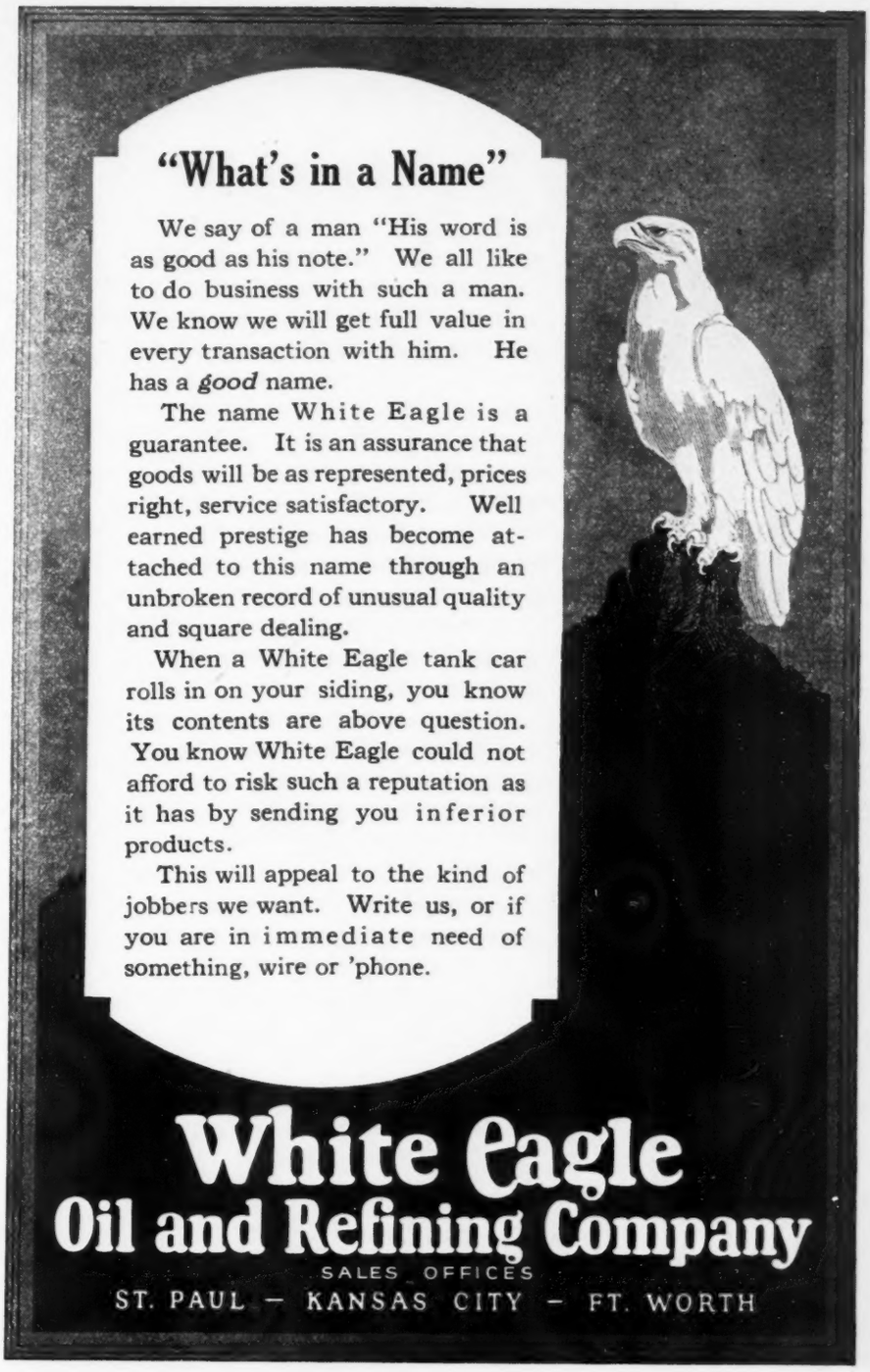
Foreign Opportunities

Reserved information may be obtained from the Bureau of Foreign and Domestic Commerce, Washington, and its district and cooperative offices by duly registered firms and individuals upon written request by opportunity number. The Bureau does not furnish credit ratings or assume responsibility as to the standing of foreign inquirers; the usual precautions should be taken in all cases, and where no references are offered it does not necessarily imply that satisfactory references could not be given. Correspondence may be in English unless otherwise stated.

18871—**Lubricating and diesel oils,** Cairo, Egypt, purchase.

18872—**Lubricating oils,** Bagdad, Iraq, purchase.

18873—**Paraffin wax and petroleum,** Trieste, Italy, purchase.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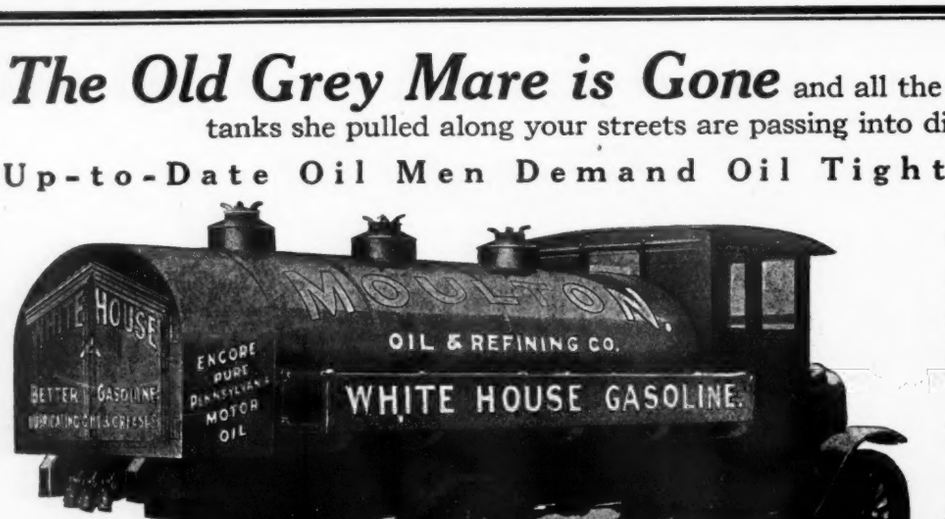

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Pipe Line and Market for Oil Will Increase LaBarge Field Activity

Staff Special
CLEVELAND, Jan. 30

THINGS are looking up a bit in southwest Wyoming. In an area that has been spasmodically tested for many years—mostly by shallow holes that gained their production in shale beds—there is now more interest than usual, with the larger companies paying attention in geological work and leasing and in a few tests now under way.

A recent development in this district is reported in that The Texas Co. has taken control of the holdings of the Beneficial Oil Co., operating in the LaBarge district of Suglet county, which is the county next north of Uinta, the southwesterly county of the state. The Beneficial company some time ago started hauling crude oil by tank wagon from the LaBarge field to Susie station, from where it was shipped by rail to the Salt Lake City plant of the Utah Oil Refining Co. Some 200 barrels daily has been so delivered.

In the general of the LaBarge field oil has been known of for many years, through seepages. A small refinery was at one time in operation at Leroy, farther to the south and in Uinta county, but it failed to pay and the supply of oil was uncertain. Oil seepages were found at a number of places; one of them, the well known Carter spring, in 31, 15n-118w, having supplied oil to the early settlers for medicinal and lubricating purposes. Another famous spring was at Hilliard, in 4-13n-119w and in 1848 there was published a booklet called the Mormons' Guide book, containing the following description of the Hilliard spring:

Spring Known Early

"About a mile from this place (i.e., the crossing of the road over Sulphur Creek), in a southwest course, is a 'tar' or 'oil spring,' covering a surface of several rods of ground. There is a wagon trail running within a short distance of it. It is situated in a small hollow, on the left of the wagon trail, at a point where the trail rises to a higher bench of land. When the oil can be obtained free from sand it is useful to oil wagons. It gives a nice polish to gunstocks, and has been proved to be highly beneficial when applied to sores on horses, cattle, etc."

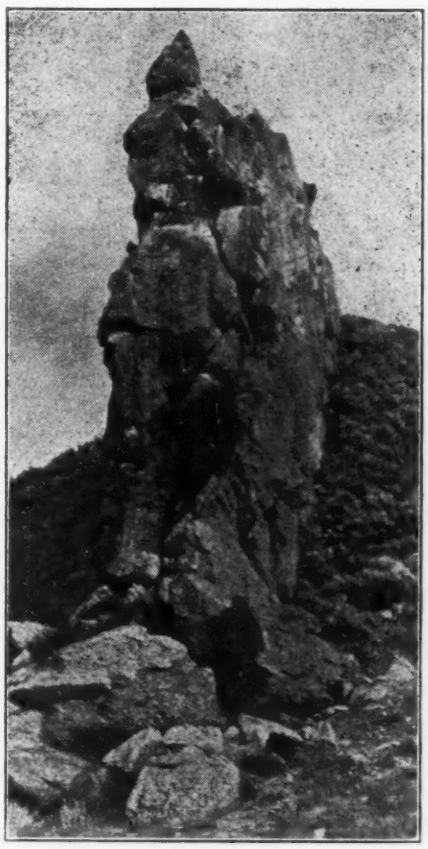
Back in 1900, in drilling for water at Spring Valley, Uinta county, the Union Pacific Railway found a sand containing high grade oil. This stirred up quite a bit of excitement and considerable drilling was done, much of it without regard to structural conditions.

All the foregoing pertains to Uinta county part of the region. As the present interest is more pronounced in the area farther to the north, some information will be given as to development and geology where principal drilling is now being done. The Spring Valley region is by no means given up as an oil possibility; in fact, there is some testing now going on in the region of Evanston, the county seat and the principal town in this part of Wyoming.

The chief town near the area of the LaBarge field is Kemmerer, with some 1500 population and the center of a substantial coal mining industry. A long structural feature known as the LaBarge anticline strikes slightly east of south, for its principal direction, changing course through the LaBarge field, and on this the LaBarge field has been developed. To the north, in Ts.28 and 29. R. 114w, is the Dry Piney field. The LaBarge development is in Ts. 26 and 27n, R. 13w.

The Oil is Needed

As is usual, economic considerations are leading to the present interest. Wyoming has for some time been wondering where the next substantial oil field would be found; refining conditions make it imperative that one should be found. The regions farthest from the established oil centers frequently wait until the promising looking structures near home have been tested. LaBarge, being far from pipe lines and refineries waited until many other structures that seemed fairly certain to be productive, "blew up" under the drill.



Where the Absarokee Fault is visible on the surface. View taken by Frank Brewster, U. S. Bureau of Mines, on Lincoln Highway, east of Evanston, Wyo. This fault has an enormous crown and extends through Wyoming and into Montana.

Such work as was carried on, therefore, was chiefly by local interests. For many years a small amount of oil was produced and marketed locally, chiefly from shallow holes that tested only shale beds. Now, with the entrance of stronger companies outlet for whatever oil is found is assured and adequate testing of the promising looking territory.

Published Reports Old

Of published geological reports on the territory there is not a great deal that is new. A. C. Veatch, now of the Sinclair Consolidated Oil Corp., in 1907, published, as U. S. G. S. Professional Paper No. 56, the result of his work under the title "Geography and Geology of a Portion of Southwestern Wyoming." His references to petroleum chiefly concern the Spring Valley district, some 80 miles south of LaBarge. This work is not now obtainable from the U. S. G. S. but is found in many libraries.

A. R. Schultz, in 1907 published as U. S. G. S. Bulletin No. 340 a description of the LaBarge field and the same region and that farther north was described by the same author in U. S. G. S. Bulletin No. 543 in 1914.

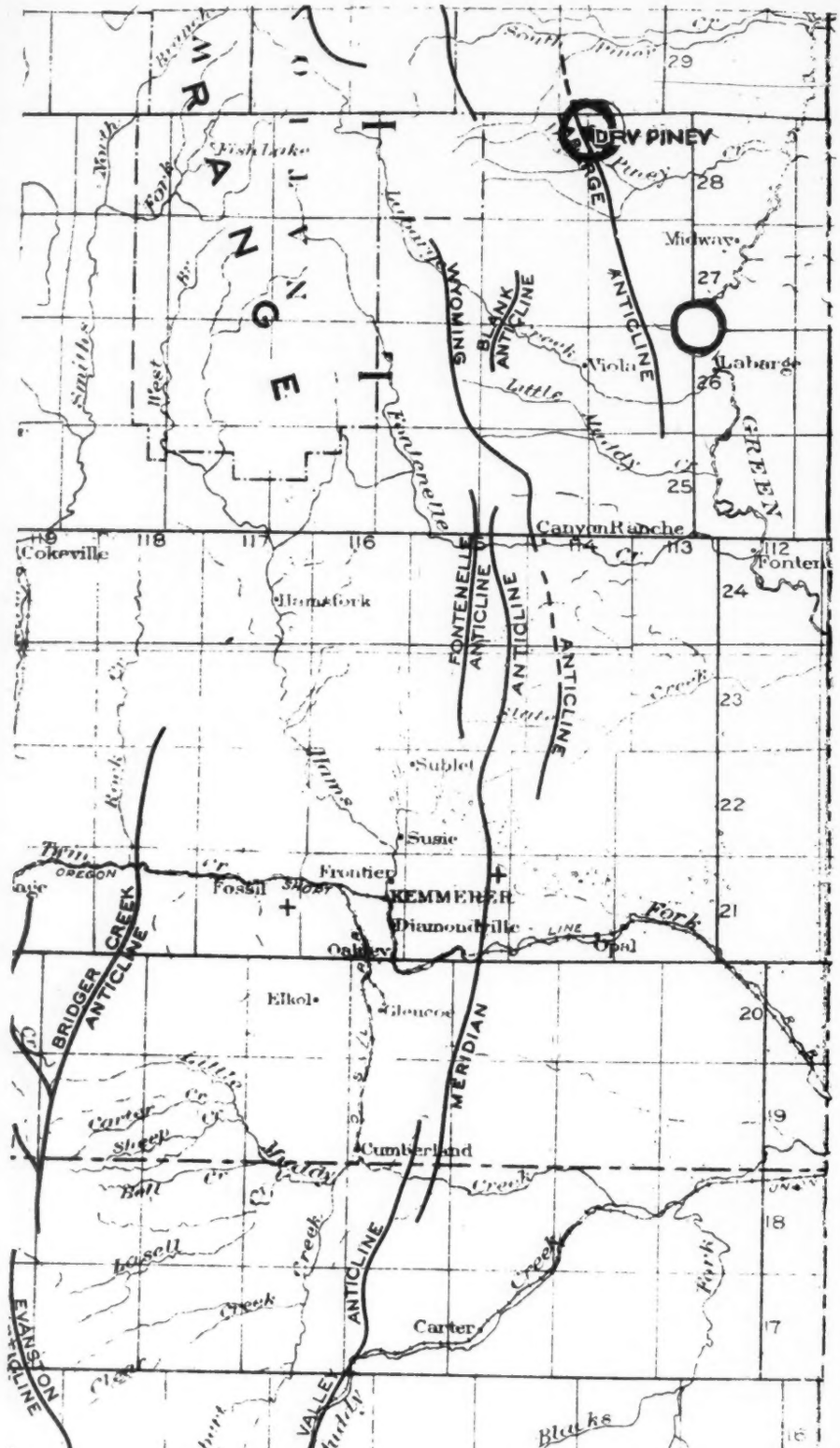
Subsequent geological studies have been principally set out in private reports to interested operators. Much study has been given to the region by Christion Vrang, consulting geologist of Salt Lake City and Los Angeles and National Petroleum News has obtained permission to publish excerpts from a report on the LaBarge district, made in 1924. Considerable drilling has been done in the field since that time, some results of which will be given at the conclusion of Mr. Vrang's notes.

Geology and Structure

"The LaBarge district is for the most part blanketed by Tertiary Wasatch, a condition which appears to have rendered impossible for a long time a precise interpretation of the folding in the partly masked Cretaceous rocks. The western half of Secs. 34 and 27, 27N-113E, with which parcels we are immediately concerned, exhibit rocks of Cretaceous age, the existence of which were overlooked in the government's survey (see U. S. G. S. Bulletin No. 643) but which were referred to in the private reports of A. G. Burritt, prob-

ably the pioneer geologist of this district." (Note: The lands referred to are embraced in the acreage which The Texas Co. is reported to have taken over for operating.)

"Immediately to the south of Sec. 34, in 3-27N-113W, three producing wells have been developed, from a depth not in excess of 630 feet (Newlon No. 3 since deepened to a depth of 1050 feet, with bottom of hole in a limestone and hole standing full of oil) which wells were started in the Tertiary Wasatch beds. A slight arching of the Wasatch beds, coincident with the sub-surface fold in the Cretaceous is readily observable in the northern part of Sec. 3, from the center of Sec. 34 (looking south). The Cretaceous, as is exposed in the middle of Sec. 34 was recently determined to be of Frontier age (the uppermost beds) by diamond drill cores obtained by the exploration work of the Wyotah Oil & Gas Co. during the summer of 1924." (Note: The Frontier section in the Salt Creek field contains the Wall Creek sandstones, principal producing horizons there).



Approximate locations of LaBarge and Dry Piney districts, southwestern Wyoming. The circle to the south indicates the region of the LaBarge field, where much of the present activity in this part of the state is centered.

Direction of Folding

"A short distance to the west the Hilliard beds are found, which appear to measure in the LaBarge district a thickness of about 2500 feet. A short distance to the east the Wasatch formation mantles the surface completely, masking the east flank of the LaBarge anticline. The LaBarge fold trends northward and slightly northeastward, which is at variance with the government findings, through the center of Secs. 27 and 34. The Frontier was not found to be exposed in Sec. 27, and is believed to be descending in a north closure, either in the north half of Sec. 27 or in the south half of Sec. 22. The south closure is found in the northernmost part of Sec. 3. The east closure is well determined by dips, approximately 18 to 20 degrees, while the western dips approach 20 to 22 degrees as an average. These dips become rapidly less abrupt away from the axis on account of the great lateral overthrust from the west (Darby fault). Practise in Wyoming has taught us to expect a perceptible flattening of dip at depth of structures lying in the face of any overthrust movement. We can, therefore, be reasonably safe in postulating a broader structure at depth than what may be drawn from observations seen on the surface. This flattening of structure at depth is what is known as horizontal convergence.

Developments and Prospects

"To date developments have only been made by diamond drilling on the lands in question (As of the early part of 1924), which work has demonstrated shallow commercial production as well as the actual trend of the fold which passes northward through the middle of Sec. 27 and 34. To a depth of 417 feet the light weight diamond drill was forced to abandon its work on account of the gas pressure which registered 210 pounds on the steam gauge. The gas is wet and flows from a sand 25 feet below the lowermost sand penetrated. The latter was only drilled into seven feet by the diamond. Below the depth reached by the diamond drill several additional sands in the Frontier formation are know to exist. Their oil capacities are an unknown factor, as no well has been drilled through the Frontier where

this formation is favorably folded in western Wyoming. (Again, as of early 1924; four producers in 1925 attest the productivity of lower sands in the Frontier.) The underlying Aspen (according to Veatch, Pro. Paper No. 56, the Aspen is lower Benton formation of the Colorado group. Cretaceous age—Ed.) is known to be a producer in the Spring Valley fields, 80 miles to the southwest, as well as the Bear River formation. The Dakota sand is known to exist in either the Bear River or uppermost Beckwith and it is also an unknown factor to date as to its potential oil value. (Reference is to Dakota's value in this region.")

Differs from Central Wyoming

"It would be a mistake to predict the oil probabilities of the underlying sands in the LaBarge section upon what is known of the existing oil formations in central and eastern Wyoming. Western Wyoming has very little in common with that part of the state wherein are contained such folds as Salt Creek, Grass Creek, Rock Creek and Elk Basin pools. Conditions of sedimentation are different here insofar as this part of Wyoming received its source materials from a different shore line than that of central and eastern Wyoming. Since the shore line of the Cretaceous sea encroached and receded over this region in its western limits many times, it follows that a very much greater number of productive horizons will occur in the Cretaceous in this part of the state.

"This historical condition has made for many more shore line sands than exist elsewhere in the Rocky Mountain province, it being understood that shore line sands are the oil bearing sands. This theory has been demonstrated in practice in the encountering of so many producing sands so far found in Sec. 34 at shallow depths not exceeding 414 feet.

"The Appalachian type of folding in this region in particular and western Wyoming in general also has little in common with the foldings in the central and eastern part of the state. Folding and accompanying stresses have been more intense, resulting in higher distillation factors, which, induced in a region where the greatest thicknesses of organic material have been deposited in the state, accords us additional favorable factors in a prospective oil producing light.

"Although the existence of the Frontier formation has been established, no test has been made to date that has exhausted its possibilities at depth or through the oil horizons as are known to exist in the Aspen and Bear River formations where prolific production under favorable conditions may be expected.

Thickness of Formations

"From the showing already made in the uppermost part of the Frontier, bigger production may be reasonably expected in the same formation without regarding the known and deeper oil horizons. On account of the thinning out of all formations eastward it is impossible to estimate with any degree of accuracy the thicknesses of the Frontier, Aspen and Bear River formations, except to approximate them as

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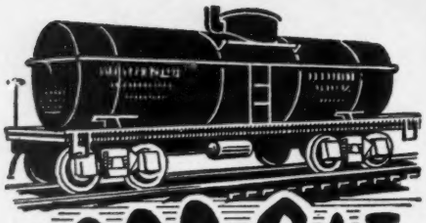

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in Less Than
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Plunger, slow speed, and packed with special cup leathers. A special safety feature, since with any pump some air is pumped with gasoline when tank is almost empty.

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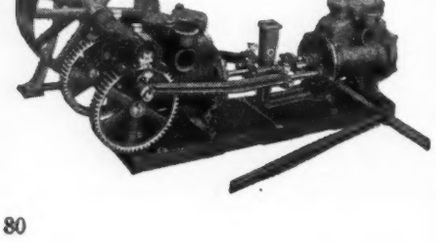


Site of the well known Carter oil spring, in southwestern Utah. Early day emigrants used the oil for greasing wagons and for medicinal purposes.

between Veatch's and Schultz's minimum measurements in western Wyoming, and the measurements of these same formational equivalents in central Wyoming. A study of these different measurements leads one to assume the following approximation of the thicknesses in the LaBarge district:

Frontier	2,000 feet
Aspen	1,000 feet
Bear River	1,000 feet

"From a practical standpoint it is of importance to have established the commercial productivity of the shallow sands. The writer has made a conservative estimate that 6,000,000 barrels is recoverable from those near to the surface of an oil of napthalene base ranking especially high in the scale of lubricants. This oil does not congeal in freezing weather and is transportable in pipe lines laid on the surface of the ground.

"The identifying of the Frontier formation is important as it serves as a basis as to what depth the Aspen, Bear River and Dakota sands may be found."

Notes on Certain Wells

As previously said, the foregoing geological data does not take into account results of deeper drilling since it was compiled. Some information on the drilling is summarized herewith:

1.—Well of the Beneficial-Wyotah interests in the northeast of Sec. 34. Drilled with diamond drill and flows about 12 barrels per day. At 414 feet the hole had taken cores of nine saturated sands and gas still flows from the next to the deepest sand. The oil is coming from a sand some 20 feet lower than the gas. A small field refinery has extracted about 20 per cent gasoline, a good grade of kerosene and excellent lubricating stock from this oil.

2.—Well of the Beneficial-Wyotah interests in the southeast of Sec. 34. Drilled with standard rig. Said to have tested 200 barrels per day from a sand found at about 650 feet and 750 barrels per day from sand found at about 850 feet. Shut in for lack of tankage and market.

3.—Well of Beneficial-Wyotah in the northwest of Sec. 34. Reported at 40 barrels of oil and two million feet of gas from sand at 434 feet. P. Maloney, driller who brought in the well, said that his log showed saturated sands capable of producing at all depths shown in diamond drill hole, mentioned in No. 1 above. He reported that perforation of pipe and getting production from lesser sands would have added greatly to well's rating. Gas from this well is used as fuel for other operations.

4.—Beneficial-Wyotah well in southwest of Sec. 34. Rated at 75 barrels daily with five million feet of gas in sand found at 700 feet. Paraffined and will require more work. Shut in for lack of storage and pipe line. Log shows water shut-off made between 300 and 400 feet. Set 15 inches on top of first commercial oil sand at about 430 feet. Oil and gas of lesser consequence all the way down to second commercial oil sand at 600-650 feet and frequent recurrences of oil and gas sands down to principal production. This well once blew off its control, throwing it to such a distance that it has not yet been found. (All the four wells named above were drilled in the center of Sec. 34, offsets.)

5.—Well of the Wyotah-Beneficial in the southeast of Sec. 27, a half mile north of the group named above. This is the only well shipping oil from Susie station, four trucks being used for transportation. About 200 barrels daily have been shipped. Production from 900-foot level and oil of 40° Be.

(Note: Much of the foregoing data on wells were supplied by A. F. Stumpf, an operator in the LaBarge field.)

Government land titles govern most of the acreage, as the amount of patented land is negligible.

The wells set out above are not all that have been drilled, by any means, but are given as among the more important ones.

Proposes Method for Testing Anti-Knock Value of Motor Fuels

LOS ANGELES, Jan. 29. A METHOD for testing the anti-knock value of a motor fuel by comparison with toluol, an aromatic hydrocarbon substance with a known anti-knock value, and also in direct relation to its performance in an automobile engine, was proposed by Dr. Gustav Egloff of the Universal Oil Products Co. (Dubbs) before a meeting of the technical advisory committee of the American Petroleum Institute on Jan. 19.

Dr. Egloff stated that the method, which he said was the work of himself and Dr. Jacque Morrell, might be open to criticism, he realized, and that he did not propose it as by any means the last word in testing for anti-knock value, but rather for the purpose of inviting criticism, directing thought along that line and bringing about activity that would result in a satisfactory yardstick for the testing of anti-knock value and a method of applying it that could be handled like other routine oil tests in the average refinery laboratory by the average laboratory staff.

Dr. Egloff, describing his method, said the first step was the distillation of 500 cubic centimeters of gasoline in a Hempel glass bead apparatus, taking off a fraction at a temperature of 410 F. in the vapor in the top of the Hempel column. Any other temperature, he said, might be arbitrarily set provided the succeeding steps in the test were carried out on the basis of the temperature chosen.

Finds Unsaturated Percentage

The residue remaining in the bottom of the flask, if any, is discarded. The condensation of the 410 F. fraction is treated with 80 per cent sulfuric acid in a ratio of two parts of acid to one of oil by volume. The oil and acid are agitated together for 15 minutes. Then the mixture is allowed to settle and the acid layer is drawn off. The volume of oil is measured and the percentage of oil lost in the treatment is calculated. This calculation gives the percentage of unsaturated hydrocarbons due to the acid absorption or reaction products dissolved in the acid.

The acid-treated oil is then washed with water and neutralized with a 10 per cent solution of caustic soda. The neutralized oil is then re-distilled in the Hempel apparatus and the vapor is fractionated so that the vapor temperatures on the column is recorded at 410 F. The volume of the oil residue resulting from the second fractionation to 410 F. is calculated against the first 410 F. fraction which yields the percentage of polymerized hydrocarbons resulting from the acid treatment. This percentage of polymerized hydrocarbons added to the percentage of unsaturated hydrocarbons absorbed by the acid gives the total percentage of unsaturated hydrocarbons in the first 410 F. fraction of the motor fuel.

Determination of Aromatics

The second 410 F. fraction obtained during the analysis of the unsaturated hydrocarbons is used for the determination of the aromatic hydrocarbon content. In a graduated separatory funnel provided with a stop cock and enlarged upper stem, 20 cubic centimeters of the second 410 F. fraction is added to 50 cubic centimeters of nitrating mixtures composed of 25 per cent of nitric acid, 58 per cent of sulfuric acid strength and 17 per cent of water by weight. The nitrating mixture should be added very carefully while continually cooling. This operation may require from 15 minutes to an hour of agitation and cooling.

Great care must be taken so that the temperature of the hydrocarbon mixture does not rise to the point where side reactions occur and possibly danger of explosion. The reaction mixture is allowed to stand until evolution of gas has practically ceased. A three-layer system forms usually, composed of the acid layer, an intermediate layer, of nitro derivatives and the oil layer on top. The number of cubic centimeters of the nitro layer is read off. This value is multiplied by a factor of 4.3 which gives the percentage of aromatic hydrocarbons. The percentage of aromatic hydrocarbons in the second 410 F. fraction is then calculated back to the original 410 F. fraction yielding the percentage of aromatic hydrocarbons in the original 410 F. fraction.

Determination of Naphthene Content

The oil residue from the nitration treatment is washed with water and a 10 per cent caustic soda solution and is then carefully dried with calcium chloride and filtered to remove all traces of moisture.

The oil residue is composed of a mixture of paraffin and naphthene hydrocarbons and the aniline value of the mixture is determined on this prepared oil freed from unsaturated and aromatic hydrocarbons. The aniline number of the oil is determined by adding 10 cubic centimeters of freshly distilled aniline to 10 cubic centimeters of the oil residue in a test tube with a larger test tube surrounding it which acts as an air jacket. A stirring rod is spaced within the aniline-oil mixture and a thermometer graduated from zero to 100 C. calibrated in 0.1 degrees C. is inserted therein.

The temperature of the mixture is raised just to the disappearance of the cloud and read. The heating is continued until just above the cloud point and then allowed to cool until a reappearance of the cloud is observed. This determination of the cloud point can be read to 0.1 degree C.

Dr. Egloff said that the work of Tizard and Marshall and later workers indicate that the paraffin hydrocarbons are just completely miscible with aniline at 70 C. and that for each one per cent of naphthene hydrocarbons present in a paraffin-naphthene mixture the cloud point of the mixture is depressed 0.3 degree. Expressed more simply, if the cloud point of the paraffin-naphthene mixture is 55 C., which is 15 degrees below the temperature of complete solubility of paraffin hydrocarbons in aniline, then by dividing the 15 C. by 0.3 degree C. there would be 50 per cent naphthene hydrocarbons in the sample undergoing analysis by the aniline method. The percentage of naphthene hydrocarbons present must then be calculated back to the original 410 F. fraction which yields the per cent of naphthenes present in the original fraction.

To obtain the percentage of hydrocarbons in the original 410 F. fraction, the percentage of unsaturated, aromatics and naphthenes are added and by difference from 100 per cent the paraffin hydrocarbons are determined.

Dr. Egloff said that this method gives a reasonably accurate determination of the percentage of paraffins and other hydrocarbons for all practical purposes. He tested the method by analyzing synthetic mixtures in which the percentage or aromatics and unsaturates was known and the results obtained checked closely with the facts, he stated.

Used Ricardo's Data

As to the determination of the anti-knock value of the fuel after the amount of anti-knock hydrocarbons have been determined, Dr. Egloff used Ricardo's data for toluene, published in the report of the Empire Motor Fuels committee of the Institute of Petroleum Technologists of England.

Cracked gasolines from different charging stocks were analyzed and the unsaturated, aromatic and naphthene content were then converted into aromatic hydrocarbon values using Ricardo's method from which it was calculated that five per cent of unsaturated hydrocarbons is equivalent to 1 per cent of toluene, both in admixture with paraffin hydrocarbons so far as the anti-knock properties in an engine are concerned.

In like manner, 4 per cent of naphthenes is calculated to be equal to 1 per cent of toluene. It must be recognized, Dr. Egloff said, that there is a limitation to the accuracy of these relation-

ships owing to the fact that Ricardo did not work with pure unsaturated or naphthene hydrocarbons. It is assumed that the toluene values obtained by this comparison may be translated direct into aromatic hydrocarbons.

To obtain the total aromatic hydrocarbon value or equivalent, the aromatic hydrocarbon value obtained from Ricardo's data is added to that obtained by direct analysis.

As a further means of comparison, the highest useful compression ratio, based on Ricardo's toluene value was stated by Dr. Egloff as applying to cracked gasoline from several charging stocks and as related to the percentage of unsaturated, aromatic and naphthene hydrocarbons in the respective motor fuels. The table follows:

Table No. 1

Source	Unsaturated %	Aromatics %	Naphthenes %	Paraffins %	Aromatic Equivalent %	Highest Useful Compression Ratio
Tonkawa, Braman, No. Kansas Topped crude Mixture	16.1	17.8	12.8	53.3	24.2	5.6
Kentucky Fuel Oil	14.4	22.5	10.0	53.1	27.9	5.7
Smackover Heavy Crude	14.7	28.5	21.2	36.6	36.7	5.9
N. Texas Fuel Oil	16.0	18.6	11.7	53.7	24.7	5.6
Lost Soldier Crude	11.7	15.0	15.4	57.9	21.1	5.5

In obtaining this compression ratio, Dr. Egloff said, the aromatic hydrocarbons found by direct analysis were compared to toluene.

In order to compare the anti-knock value of cracked gasoline directly with that of straight run gasoline, Dr. Egloff ran a series of tests, using the same method, on straight run and cracked gasoline from various crudes with the following result (Table No. 2):

In order to compare the values obtained by direct chemical analysis engine tests were made in several of the samples the tests of which are shown in these tables, to determine their actual anti-knock value. The method of making these tests was the listening method. A four-cylinder motor with a constant compression ratio was used for the tests.

The knock of the motor was determined as a function of spark advance. A standardized knock by the listening method was used which was checked with reasonable accuracy by two observers. As a sample of the closeness with which chemical tests for toluene equivalent in the gasoline were checked by the motor tests for knocks, Dr. Egloff gave the folliwing figures: The gasolines used were cracked from the sources indicated (Table No. 3).

Some petroleum chemists have already challenged somewhat the methods described by Dr. Egloff on the ground that his research work was based partly on Ricardo's work and Ricardo was working with a different type of engine than those usual in America with thicker cylinder walls, which some of the chemists think would make a considerable difference in the knocking, especially the knocking to be detected by the listening method.

Table No. 2

Source	Unsaturated %	Aromatics %	Naphthenes %	Paraffins %	Aromatic Equivalent %	Ricardo Compresion Ratio
Cushing crude	1.6	4.9	23.7	69.8	11.1	5.1
Cushing cracked	10.9	19.8	18	51.3	26.5	5.6
Somerset straight run	3.8	5.3	20.6	70.3	11.1	5.2
Somerset cracked	12.5	14.9	11.8	60.8	20.4	5.5

Table No. 3

	Tonkawa, Braman and No. Kansas	Smackover Crude	Kentucky Fuel Oil	Cushing Fuel Oil
	Aromatic Hydrocarbon Content Found			
By Analysis	25.7%	40.5	27.7	25.7
By Engine	24.2%	36.6	29.0	26.5

Large Order Is Placed For Ford Oil

ST. LOUIS, Jan. 30.—R. J. Brown Petroleum Co., St. Louis, has closed a contract with its Chicago distributor of Brown's-Oyl for 600,000 gallons of this oil over the next five years. The oil is used only in Ford cars and the order is believed to be one of the largest ever made for such a specialty.

The Brown company will assist its distributor in a selling campaign with special advertising. It plans to use 75 bulletin boards in the Chicago district in 1926.

Uses Combined Methods Of Absorption

LOS ANGELES, Jan. 29.—Construction work was completed last week on the Pacific Gasoline Co.'s charcoal absorption plant on the Associated Oil Co.'s Lloyd Lease in the Ventura Avenue field. This plant is not far distant from the company's two oil absorption plants in that field. Gas, after having passed through the oil plants is treated a second time in the charcoal plant where it is more thoroughly stripped of its gasoline content.

Operation of the plant has been simplified by the use of nine huge 14-inch hydraulic gate valves which regulate the flow of gas to the three horizontal charcoal absorber stills. The use of these stills might be termed a "batch" process since the passing of gas through the absorber still, the distillation of gasoline from the charcoal and the cooling of the charcoal are carried on successively in each still every three hours.

The plant has a capacity of 6,000 gallons daily and is designed particularly for the purpose of treating gas of low gasoline content. It is the first of its kind to be used by Pacific Gasoline Co. and is one of several similar installations in Southern California. Results obtained during its first week of operation have proved exceedingly satisfactory.

New development in the Brea field has called for an enlargement of facilities of the Pacific Gasoline Co. in that district. Work has begun on the installation of a gasoline plant which will have a daily output of 2,500 gallons when completed. This plant is being built near the site of the first plant constructed by the company which was placed in operation in 1911. The new plant is expected to be in operation about Feb. 1st.

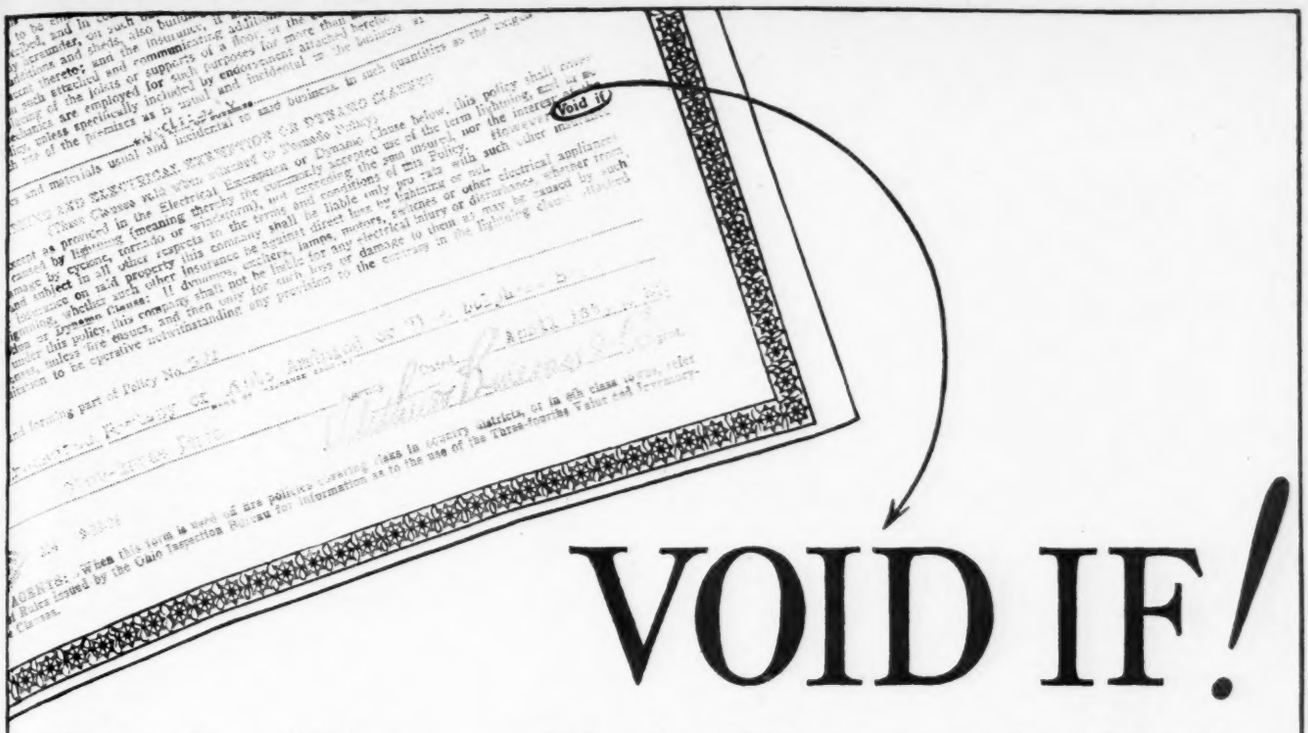
Petroleum Helps Save Calif. Fruit Crop

LOS ANGELES, Jan. 29.—Some idea of the importance of petroleum products in spraying fruit and fighting insects that injure California's fruit crop was given by E. R. de Ong, of the University of California staff in an address on "Experimental Studies in the Use of Petroleum Oils as insecticides on Citrus and Deciduous Trees" at the institute group session Jan. 21 on Special Uses of Petroleum.

"The estimated crop loss from insects in 1922 was $28,000,000, in spite of the fact that $11,000,000 was spent that year in insect control," the speaker said. "To produce a $40,000,000 orange crop in 1924 this state spent $4,500,000 in controlling insects and then the loss to the crop was estimated at $4,000,000."

Highly refined lubricating oils are proving to be the best fumigant for fruit trees, he said, oils of high boiling points and containing any proportion of unsaturated hydrocarbons causing a yellowing of leaves, and possible discoloring of fruit.

Mr. de Ong estimated that, there might be a market of 200,000 barrels of oil annually in California for this purpose. "Three outstanding points of value in determining specifications for an efficient and safe oil insecticide are specific gravity to a limited extent: sulfonation test, a very important guide in selecting oils safe to use on plants and of use in evaluating the insecticidal qualities, and viscosity, apparently a very important factor, but concerning which there is much to learn," he said.



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It happened in New Jersey—to a grease and lubricating oil plant you would recognize. For years the plant had been "covered" by a $100,000 policy written in horse truck days, and automatically renewed each year.

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A N. P. M. F. I. C. engineer discovered the error and showed the New Jersey concern how to have their policy re-written. And now they've added a N. P. M. F. I. C. policy—just to have oil insurance specialists in on their insurance problems.

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National Petroleum News
830 Caxton Building **Cleveland, Ohio**

Four Torpedo Companies Are Consolidated

Staff Special

TULSA, Jan. 29.—Ford Alexander, president of the California company bearing his name was in Tulsa the past week, and announced that he had completed a merger of four Mid-Continent nitroglycerine companies which are now under his control. These companies are the Osage Torpedo Co., Standard Torpedo Co., both of Oklahoma, the Mendenhall Torpedo Corp., Wichita Falls, Tex., and the Ford Alexander Corp., of California.

The Osage Torpedo Co. will take over management of the Standard Torpedo Co. under the merger, in charge of W. K. Judy, who for several years has been at the head of the former company. M. M. Kinley, who has had charge of the Standard for some time, will be affiliated with the Osage Torpedo Co. Thomas Mendenhall will continue as manager of the Mendenhall Torpedo Co. at Wichita Falls.

Frank Howe will assume charge of the credit departments of the merged Oklahoma and Texas companies. He has heretofore had charge of that department with the Alexander Corp. in Los Angeles. Mr. Alexander will continue to reside in Los Angeles, but says he will spend about one-half his time in Tulsa.

New Tankage Less in 1925

WASHINGTON, Jan. 28.—The past year saw far less oil storage tanks erected than either 1924 or 1923, according to figures of the Department of Commerce on bookings of fabricated steel plate. In 1925 it required 87,541 tons of plate for storage tanks as compared with 123,368 tons in 1924 and 296,123 tons in 1923.

For refinery materials and equipment the 1925 record was far ahead of either of the two previous years. In 1925 there were required 24,964 tons; in 1924 the total was 11,289 tons and in 1923, 17,114 tons.

Plate for tank cars also led in 1925. In the past year the bookings amounted to 34,581 tons; in 1924 the bookings totaled 14,058 tons and in 1923 they were 30,051 tons.

ROCKFORD, ILL.—J. E. Murphy, formerly agent at Pukwana, S. D., for the Standard Oil Co. of Indiana, is installing equipment for an up-to-date car washing and greasing station at Rockford. The equipment includes an automobile rotary lift and complete cleaning system.

PEORIA, ILL.—Standard Oil Co. of Indiana recently opened a new service station here.

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HERE & THERE

National Petroleum News

James C. Pearce, manager for the past three years of the Madison County Oil Co., Edwardsville, Ill., distributor of Texaco products, resigned on Jan. 15. Mr. Pearce will be succeeded by Charles Welsh, of Festus, Mo., who is a stockholder of the company.

Mr. Pearce expects to enter the oil jobbing business for himself as soon as he completes a bulk station. Previous to his connection with the Madison County Oil Co., he was with the Standard Oil Co. of Kentucky.

* * *

L. A. Bulen, president of the Bulen Oil Co., Anderson, Ind., has been confined to his home on account of illness but is now improving. The company which is entering its sixth year in the oil business, reports business is good and Audrey C. Bulen, manager, believes that the current year will be the best so far, as business has improved each year.

* * *

D. A. Windsor, formerly superintendent of the refinery of the Lubrite Refining Co., at East St. Louis, Ill., has been promoted to general superintendent with offices in St. Louis. Charles A. Bettman, formerly assistant superintendent, has been promoted to Mr. Windsor's former post.

* * *

Guy C. Riddell, eastern manager at New York for the N-T-U Co., New York, recently returned from a three months' stay in England where he conferred with the English and foreign interests of his company. Ivor Scott Winby, London, is first vice-president and director of the company.

* * *

William H. Williams, chairman of the board of directors of the north Central Texas Oil Co., Inc., New York and Shreveport, La., and Mrs. Williams are spending a part of the winter in Florida. Mr. and Mrs. Williams are stopping at The Whitehall at Palm Beach.

* * *

G. L. Coleman, northeastern Iowa representative of the Champlin Refining Co., Enid, Okla., has returned to his territory after a few days' trip to St. Louis, Kansas City, and a two-day trip to the Enid refinery of the Champlin.

* * *

Harry F. Palmer, Quality Oil Co., Edwardsville, Ill., and Mrs. Palmer spent the recent holiday season with relatives at Wabash, Ind.

* * *

D. M. Welch, who has been salesman for the Sinclair Refining Co. in Quincy, Ill., territory, has been promoted to agent at Quincy.

Miss M. Roessner, for several years with the Sinclair Refining Co. at Chicago in various positions, is now office manager for the Shriver Oil Co., Baltimore, after a year's vacation.

The Shriver company has but recently entered the oil business to distribute petroleum products through service stations but it has had rapid growth.

* * *

Ira Warlick, manager for the Leemorr Oil Co., Morris, Ill., has just returned from a two weeks' trip to Oklahoma, where he attended the sales convention of the Marland Oil Co. at Ponca City. The Leemorr Oil Co. is distributor of Marland products, and reports the outlook is good for 1926.

* * *

Will McClinnis, formerly with the Savoy Oil Co., and E. J. Hutchinson have gone to the Texas Panhandle to work for the Amarillo Land Co., under the supervision of J. D. Ward.

* * *

Jack Flynn, northeastern Iowa representative of the Valvoline Oil Co., New York, has been broadcasting this winter from Cedar Rapids, Ia., on his steel guitar.

* * *

J. B. Murphy, agent at Fairbank, Ia., for the Standard Oil Co. of Indiana, has been promoted to salesman. Mr. Murphy will have charge of all agents for the Standard in Fayette and Buchanan counties. Earl Bentley succeeded Mr. Murphy as agent at Fairbank.

* * *

Thomas W. Armstrong, general sales manager of Fiske Bros. Refining Co., New York, has his headquarters now at the office of the new plant at Toledo, O.

Junior Here and There

Thomas M. Golden calls it "Irish luck" to be appointed assistant superintendent of the Lubrite Refining Co., E. St. Louis, Ill. on Jan. 1, and to have a seven and a half pound daughter, Elizabeth Catherine, presented to him by Mrs. Golden on Dec. 31. Miss Elizabeth is the first child.

* * *

Mr. and Mrs. E. V. Kendall, Decatur, Ill., are the proud parents of a daughter, born Nov. 14. Mr. Kendall is agent at Decatur for the Standard Oil Co. of Indiana, Chicago.

D. H. Goldman has resigned as vice-president and sales manager of the Penn-Vis Oil Products Co., Cleveland, but has retained his stock interest in the company. Mr. Goldman is widely known to the oil trade in Cleveland and northern Ohio territory, having been in the business for the last 11 years. He is a lubrication engineer. Mr. Goldman said he would continue in the oil business as salesmanager of another Cleveland oil company.

* * *

L. M. Baylis, formerly salesman for the Gratiot County Oil Co., Alma, Mich., is now a partner in the J. J. Swarthout Co., Lansing, Mich. Mr. Baylis is well known in Michigan territory. The company now operates under the name of Swarthout-Baylis Oil Co., according to John M. Mannings, cashier. Several new service stations have been added recently.

* * *

J. C. Siegel, president of the Erie Oil Co., Erie, Pa., and Mrs. Siegel, will sail in the near future from New York on the steamer Munargo for Nassau, Bahama Islands and Havana, Cuba. Mr. Siegel will not pass up any opportunities to look over the oil situation while on the trip, according to E. J. Rastatter, secretary.

* * *

Russell A. Hebert, formerly with the F. F. Wood Motor Co. and the Gash Motor Sales Co., Grand Rapids, Mich., is now salesman in Grand Rapids for the Sinclair Refining Co., C. C. Bidwell, general agent for the Sinclair at Grand Rapids, has announced.

* * *

Marriage of Richard P. Fleckenstein of the Fleckenstein Visible Gasometer Co., Grand Rapids, Mich., and Miss Frances Wickham, Flint, Mich., on Dec. 26 was announced a few days ago.

* * *

H. C. Harpole, who has been manager at Edwardsville, Ill., for Correct Motor Fuels, Inc., has been transferred to the company's headquarters at East Alton, Ill.

* * *

Kirby Thomas, consulting engineer of New York, has been investigating oil properties in southwest Texas and the Ranger field for New York interests.

* * *

H. S. Goodell, Hancock, Mich., jobber of lubricating oils and greases, is spending the winter at Bradentown, Fla. Mr. Goodell's family is with him.

* * *

P. W. Fitzkee, of Naylor, Fitzkee & Rorschach, Tulsa, is spending a month in New York City.

Industrial Notes

Recent appointments on the home office staff of Tide Water Oil Co., New York, by F. H. Dickison, vice president and general manager, include: George K. Hambleton, motor sales manager; Ralph T. Gilpin, grease sales manager; Willard H. Ray, gasoline sales manager; J. Lloyd Bailey, industrial sales manager; Frank W. Clark, advertising manager, and Lisle W. Sweet, operating manager.

The four departments which previously comprised the eastern territory, have been consolidated into three departments and field managers are: Waldo Emerson, central department; Frank D. MacEachern, eastern department; Carroll C. Rowland, metropolitan department; J. Walter Greenleaf, northeastern department and F. Morris Rowles, western department.

Sales managers of the five departments are: R. H. Mozier, central; W. S. Whalen, eastern; G. D. Burgevin, metropolitan; B. R. Rowell, northeastern; and W. C. Pettingell, western.

Advertising supervisors are: P. J. Sauer, Jr., central; A. R. Ketchum, eastern; H. A. Hall, metropolitan and northeastern; and H. R. Deal, western.

* * *

John A. Anderson, wholesale distributor of petroleum products in Chicago, has discontinued active marketing and will devote his time henceforth to his own bulk plants. He will build additional plants whenever business warrants. Mr. Anderson also intends to devote more time to the real estate business, in which he has been interested in the last year.

* * *

American Oil Pump & Tank Co., Cincinnati, manufacturer of filling station equipment, have placed on the market a new oil compressor made in three sizes. Plate and disc valves are used in the compressor to obtain noiseless operation and cylinders are offset from the center of the crank case to insure connecting rods being kept straight, the company claims.

* * *

A. Serf, Jr., with the Standard Oil Co. of Indiana at Holland, Mich., left on Jan. 23 for a trip through the Whiting, Ind. refineries, Chicago and Tulsa.

Joins E. C. Meier Co.

TULSA, Jan. 29.—M. L. Norris, formerly assistant superintendent of production for the Waite Phillips Co., will become general manager of the E. C. Meier Lubricating Co. at Wichita on Feb. 1.

The E. C. Meier Lubricating Co. has a factory at Wichita making H. M. A. long stroke pumps and Lock Type sucker rod guides. The company handles a number of specialties as sales agents as well as N. Y. N. J. lubricants.

GULF Refining Company

General Sales Offices
PITTSBURGH, PA.
District Sales Offices
New York, Houston, Atlanta, Boston, New Orleans, Tampa, Philadelphia

REFINERS OF OKLAHOMA TEXAS AND LOUISIANA

PETROLEUM

REFINED OIL
GASOLINE
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT

Fuel Oil--Lubricating Oils

CYLINDER ENGINE
CORDAGE

RED AND PALE PARAFFINE OILS

Refinery Products Directory

Gasoline and Naphtha

NORTH LOUISIANA

58-60 U. S. Motor Gasoline
Caddo Central Oil & Refining Co., Shreveport, La.
Shreveport Prod. & Refg. Co., Shreveport, La.

OKLAHOMA

50-52 450 E. P. Naphtha
Cameron Refg. Co., Ardmore, Okla.
56-58 450 E. P. Gasoline
★Bolene Refg. Co., Enid, Okla.
Cameron Refg. Co., Ardmore, Okla.
58-60 450 E. P. Gasoline
★Bolene Refining Co., Enid, Okla.
58-60 U. S. Motor Gasoline
★Bolene Refg. Co., Enid, Okla.
Cameron Refg. Co., Ardmore, Okla.
60-62 400 E. P. Gasoline
Altitude Petroleum Co., Tulsa, Okla.
64-66 390 E. P. Gasoline
★Bolene Refining Co., Enid, Okla.
68-70 350 E. P. Gasoline
Altitude Petroleum Co., Tulsa, Okla.

PENNSYLVANIA

50-52 Naphtha
Emery Mfg. Co., Bradford, Pa.
54-56 Naphtha
Emery Mfg. Co., Bradford, Pa.
58-60 Straight-run Gasoline
Emery Mfg. Co., Bradford, Pa.
60-62 Straight-run Gasoline
Emery Mfg. Co., Bradford, Pa.
62-64 Straight-run Gasoline
Emery Mfg. Co., Bradford, Pa.
64-66 Straight-run Gasoline
Emery Mfg. Co., Bradford, Pa.
68-70 Straight-run Gasoline 305-320 E. P.
Emery Mfg. Co., Bradford, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.
70-72 Straight-run Gasoline 300-305 E. P.
Emery Mfg. Co., Bradford, Pa.

Natural Gasoline

OKLAHOMA

Grade A
Altitude Petroleum Co., Tulsa, Okla.

Burning Oils

NORTH LOUISIANA

41-43 Water White Kerosene
Caddo Central Oil & Refining Co., Shreveport, La

OKLAHOMA

41-43 Water White Kerosene
Cameron Refg. Co., Ardmore, Okla.
42-44 Water White Kerosene
Altitude Petroleum Co., Tulsa, Okla.

PENNSYLVANIA

45 Water White Kerosene
Emery Mfg. Co., Bradford, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.
46 Water White Kerosene
Emery Mfg. Co., Bradford, Pa.

Neutral Oils

PENNSYLVANIA

150 Vis. No. 3 Asso. Filt.
Emery Mfg. Co., Bradford, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.
Seneca Oil Works, Warren, Pa.
150 Vis. No. 4½ Filt. (Red)
Crystal Oil Works, Oil City, Pa.
180 Vis. No. 3 Asso. Filt.
Emery Mfg. Co., Bradford, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.
Seneca Oil Works, Warren, Pa.
200 Vis. No. 3 Asso. Filt.
Emery Mfg. Co., Bradford, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.
Seneca Oil Works, Warren, Pa.
34 Gravity 350-360 Flash
Pennsylvania Oil Products Refg. Co., Warren, Pa.

Cylinder Oils

PENNSYLVANIA

600 Steam Refined
Crystal Oil Works, Oil City, Pa.
Emery Mfg. Co., Bradford, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.
635 Steam Refined
Emery Mfg. Co., Bradford, Pa.
650 Steam Refined
Emery Mfg. Co., Bradford, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.
Seneca Oil Works, Warren, Pa.
600 Flash Steam Refined
Emery Mfg. Co., Bradford, Pa.
600 Warren E
Pennsylvania Oil Products Refg. Co., Warren, Pa
600 Oil City E
Pennsylvania Oil Products Refg. Co., Warren, Pa.
Cold Test Stock (bright filtered)
Pennsylvania Oil Products Refg. Co., Warren, Pa
Warr-Penn Refining Co., Warren, Pa.
Cold Test Stock (dark filtered)
Pennsylvania Oil Products Refg. Co., Warren, Pa.
Warr-Penn Refining Co., Warren, Pa.
Black Oil
Emery Mfg. Co., Bradford, Pa.

Motor Oils

PENNSYLVANIA—100% PURE

Emery Mfg. Co., Bradford, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.
Seneca Oil Works, Warren, Pa.

Greases

Cup Grease
Richardson Lubricating Co., Quincy, Ill.

Wax

PENNSYLVANIA

122-124 White Crude Scale
Emery Mfg. Co., Bradford, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.
124-126 Crude Scale (off white)
Crystal Oil Works, Oil City, Pa.

Fuel Oils

NORTH LOUISIANA

14-18 Fuel Oil
Caddo Central Oil & Refining Co., Shreveport, La.
32-36 Gas Oil
Caddo Central Oil & Refining Co., Shreveport, La.

OKLAHOMA

32-36 Gas Oil
Cameron Refg. Co., Ardmore, Okla.
24-26 Zero Fuel Oil
Altitude Petroleum Co., Tulsa, Okla.
34-38 Straw Distillate
Cameron Refg. Co., Ardmore, Okla.
38-40 Straw Distillate

PENNSYLVANIA

36-40 Fuel Oil
Emery Mfg. Co., Bradford, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.

Petroleum Coke

Shreveport Prod. & Refg. Co., Shreveport, La.

Chicago Petroleum Club Elects Officers

CHICAGO, Jan. 29.—Greater Chicago Oil Men's Club is the official name of the organization recently formed by the Chicago oil men. This name was chosen in order to give entrance and active voting privileges to suburban jobbers who operate in direct competition with Chicago jobbers. Active membership has been limited to jobbers. Refinery representatives and carload marketers have been extended the courtesy of associate membership.

Twenty to 30 oil men of Chicago and vicinity were at the luncheon Jan. 21, when the election took place. C. S. Rosenthal, Apex Motor Fuel Co., president of the Illinois Petroleum Marketers Association, was elected president of the club and chairman of the board of directors. C. E. Gauer, Sterling Refining Co., was made vice president and treasurer. Mel Keim, Apex Motor Fuel Co., was chosen secretary of the club and all committees.

Five directors were chosen. Besides Mr. Rosenthal, the board includes, R. W. Starrett, Lyon Oil Co.; George C. Peterson, Geo. C. Peterson Co.; A. I. Archimbald, Pennsylvania Oil Co. of Evanston, and C. E. Dould, Lynch-Clarisy Oil Co., dealers in fuel oil serving the domestic and industrial trade.

Meetings will be held every Thursday, 12:30 o'clock p. m., at the Auditorium hotel. A committee now writing constitution and by-laws, will report at the next meeting.

Lincoln Gets Out Descriptive Booklet

The Lincoln Oil Refining Co., Harry L. Deming, general manager, Robinson Ill., has gotten out an attractive booklet describing its refinery, products and methods of doing business, that it is distributing to its customers and friends. The book, which bears a picture of Abraham Lincoln on the front cover and is trimmed with red white and blue decorations, is illustrated with photographs of various departments of the refinery with a brief description of each, tying in with the talk on quality of Lincoln products.

TULSA, Jan. 29.—Francis John, assistant purchasing agent for the Tidal Oil Co. for more than five years, resigned effective Jan. 1. He has not announced his future affiliation. Mr. John has been a prominent member of the Tulsa Purchasing Agents Association and is well known to purchasers and supply men.

TULSA, Jan. 29.—H. E. Marsh, who for some time past has been assistant to A. M. Blow, head of the land department of the Amerada Petroleum Corp., has been transferred to Fort Worth, where he will have charge of the company's newly-established branch office in the F. & M. bank building.

New Oil Station Construction

Wagon Mound, N. Mex.—L. W. and T. F. Keeling are building a bulk plant here, and will do business under the name of the Keeling Oil Co.

* * *

Edwardsville, Ill.—The Quality Oil Co., distributor of Skelly and White Rose gasoline, expects to build a second service station this spring.

* * *

Edwardsville, Ill.—Standard Oil Co. of Indiana has purchased ground for a drive-in service station here.

* * *

Holland, Mich.—A modern service station has been erected here by the Standard Oil Co. of Indiana, Chicago.

* * *

Hancock, Mich.—Service station will be built shortly at Houghton, Mich. for H. S. Goodell.

* * *

Gays, Ill.—Kizer Oil Co., Mattoon, Ill., is building service station on route 16 highway.

* * *

Quincy, Ill.—Sinclair Refining Co., Chicago, building service station here.

Organize Subsidiary

MILWAUKEE, Jan. 29.—As of Jan. 1, 1926, the Lindsay-McMillan Oil Co., of Milwaukee, organized a subsidiary to be known as the Reliance Oil Products Co. The headquarters will be at 93 South Water street, where the parent company's offices are. H. A. Rohde is manager of the new company and Roy Saeter is his assistant. They will be engaged in handling sales of lubricants, gasoline and benzol to the jobbing trade exclusively. Both Mr. Rohde and Mr. Saeter have been with the Lindsay-McMillan firm since its organization in 1887.

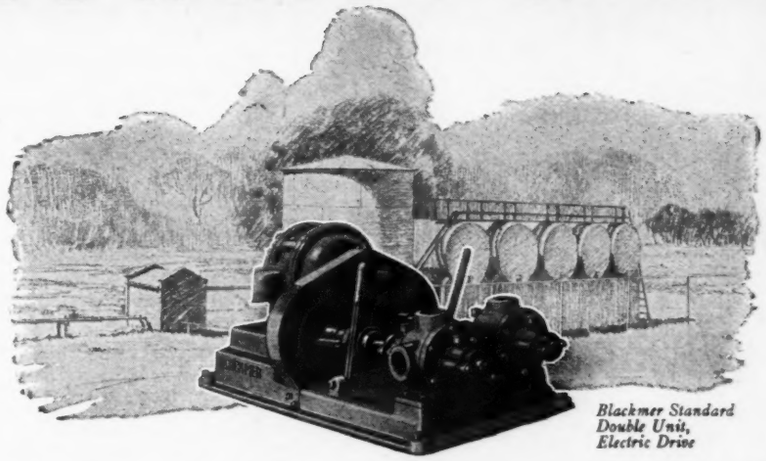
MARQUETTE, MICH.—W. J. Des Jardins has just finished erection of two bulk storage tanks and a bulk plant at Skandia, Mich. This station will supply the country trade. This gives Mr. Des Jardins three bulk plants and six service stations.

PITTSFIELD, ILL.—Zimmerman Bros. garage recently contracted with Champlin Refining Co., Enid, Okla. for its gasoline requirements.

The garage has been giving 24-hour service and finds that it boosts business, according to Guy Zimmerman, partner.

DAYTON, O.—The Indian Refining Co. has closed a contract to supply Indian gasoline and Havoline oil to the Dependable Oil Co., Marion, O.

BLACKMER ROTARY PUMPS



Blackmer Standard Double Unit, Electric Drive

Built for the Bulk Station

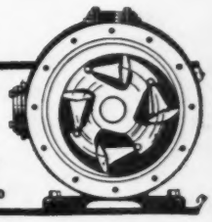
Now Blackmer offers the bulk station owner a unit especially suited to his needs and at a lower price, made possible by standardization.

The Standard Double Unit, pictured above, consists of two 100 G. P. M. Blackmer Pumps, with both suction ports on the outside, making piping easy. It is mounted with clutches and power plant on an extra-heavy cast iron base with or without space for a fire wall. Power may be either of three types, to meet the customers needs: electric motor, vertical water-cooled or air-cooled gasoline engine.

The Blackmer Principle

In this unit is incorporated the Blackmer Principle of automatic take-up-for-wear which makes possible the long and uninterrupted pumping service for which Blackmers are noted.

Write our nearest branch office for catalog and prices



BLACKMER PUMP Co.

Grand Rapids, (Formerly at Petoskey) Michigan

Chicago Detroit Boston — New York Baltimore Milwaukee — Buffalo Atlanta Houston — Philadelphia Minneapolis — Louisville Pittsburgh St. Louis — New Orleans Kansas City San Francisco

REFINING

Reliable information on every phase of modern American refinery practice is to be found in the book prepared by H. S. Bell, and called AMERICAN PETROLEUM REFINING.

Some of the chapter headings are: Refinery Site and General Arrangement; Stills; Cracking; Cold Settling; Compounding; Storage of Oil; Bulk Transportation; and Fire Protection.

The cost of AMERICAN PETROLEUM REFINING is only $5. Just mail your check today to—

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The Petroleum Register

Mid-Year Edition 1925

can give you information on 10,000 companies in all branches of the oil industry —names, addresses, officers and properties.

Some of the classifications are:

525 Refiners
3,000 Marketers and Jobbers
3,500 Producers of Crude
425 Compounders
700 Natural Gas Manufacturers
1,750 Equipment Manufacturers
72 Oil Associations
675 Drilling Contractors
750 Foreign Companies
175 Grease Manufacturers
533 Natural Gas Plants and Capacity

It also includes 53 pages of maps and a list of 1,300 trade names.

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Here is my check for $7.50 for the Mid-Year Edition of THE PETROLEUM REGISTER

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RHODES IMPROVED MOTOR OIL DISPENSERS

Why Make Oil Your *Silent* Partner?

In selling filling station products, the big profit-maker, motor oil, often is kept the *silent* partner.

The presence of gasoline is blazoned from pumps flooded in light. Greases and heavy lubricants are displayed in brilliantly lettered cans. But what about motor oil?

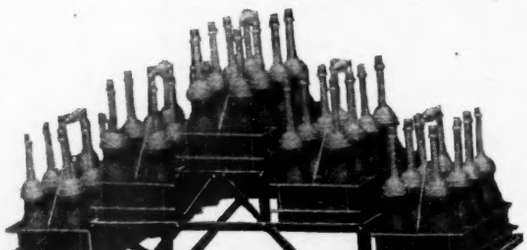
They Show the Oil

Rhodes Improved Motor Oil Dispensers with their perfect visibility, give oil high display value. Alongside your gas pumps, three or five trays of Rhodes Dispensers on a Rhodes Motor Oil Display Rack present an appearance of business-like uniformity and are a constant reminder to buy oil.

The prefilling feature of Rhodes Dispensers suggests service without delay and the accuracy and cleanliness of this service appeal to motorists.

Use Rhodes Oil-Selling Equipment in your stations and make that silent partner speak for himself.

Rhodes Motor Oil Display Racks also made in 3 Tray size.



Dispenser Sets and Display Racks are priced separately. Write us for prices.

JAY B. RHODES Co.
KALAMAZOO, MICHIGAN.

Gasoline And Other Motor Fuels

by Ellis and Meigs, is a book which gives a complete survey of the field and a description of practically every process of making gasoline and most other motor fuels of promise or prominence.

The price of the book is $10. Just send us your check and we will mail a copy of it to you.

National Petroleum News, 807 Caxton Bldg., Cleveland, Ohio

ON THE LAZY BENCH

National Petroleum News

Hot Stuff

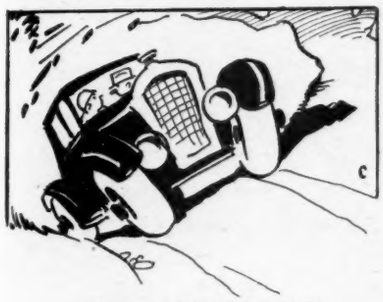
Buzz—"I hear you married a girl from Arkansas. How are you getting along?"

Duzz—"Pretty well. Only she insists on building a fire under the bed every night."

Buzz—"Why?"

Duzz—"Because she likes Hot Springs."

—The Unloading Rack



WHOA, DYNAMITE

She—"Now what are you stopping for?"

He (as car comes to halt)—"I've lost my bearings."

She—"Well, at least you are original. Most fellows run out of gas!"

Would Try It Himself

Beck (despondently): "I said something my wife didn't like and she hasn't spoken to me for two days."

Peck (eagerly): "Can you remember what it was you said?"

—Edinburgh Weekly Scotsman.

Made to Order

"Did your friend, Miss Beauty, get her good looks from her father or her mother?"

"From her uncle; he keeps a drug-store."

—Tit Bits

The Trotter Trio

"A yard of pork, please," said the witty man to the butcher.

The butcher turned to his boy:

"Give this gentleman three pigs' feet," he remarked.

—Crusoe.

Too Cold

"I once proposed to a girl in a conservatory."

"With what results?"

"A lot of expensive plants were nipped by frost."

—Homer Star, (Alaska).

Then the Fun Began

"Why, Jimmie," exclaimed the excited mother. "What did you drop the baby for?"

"Because," answered Jimmie, "Grandpa said he was a bouncing baby and I wanted to see him bounce."

—Happy Mag. (London).

Not Afraid

Maurice—"I'd give anything if you would kiss me."

Irene—"But the scientists say that kisses breed disease."

Maurice—"Oh, never mind that. Go ahead and make me a cripple for life."

—Echo de Paris.

Must Be Tough

Wife—"Darling, how would you like to have mother for lunch?"

Husband—"No, thanks. My digestion isn't what it used to be."

—Reigen (Germany).

One day, as I chanced to pass,
A beaver was damning a river.
And a man who had run out of gas,
Was doing the same to his flivver.

—Phoenix.

A Frame-Up

"Are the pictures in the Rogues' Gallery framed?"

"Yes, in guilt."

—Judge

TWO IS A CROWD

Bill: "I certainly did wrong when I told my girl that I admired her chin."

Sill: "How's that?"

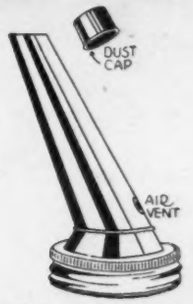
Bill: "She started raising another one."

"Why don't your sister get her hair bobbed?"

"Shear fright, I guess."

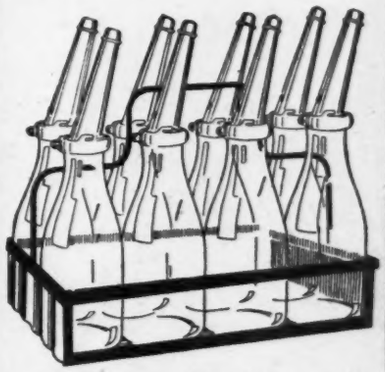
Husband: "You're a dumbbell."

Wife: "Well dumbbells always go in pairs."



MASON JAR SPOUTS

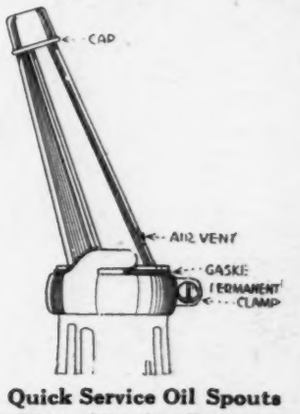
Filling Stations are doubling their sales of bulk oil by furnishing this spout with a five gallon can of oil. Your customer has a quart or half gallon fruit jar. This spout will bridge the space from can oil drum to crank case and bring him back for more. Service Station bottles for this spout, full quart—with "Fill Line" 20c each.



Oil tight pan of heavy tin plate. Bottom corrugated to protect bottles from sudden contact with cement floors as the corrugations carry the bottles above the bottom of the pan. The top band and bail are of 1-8"x1-2" band iron. The bail is detachable for convenience in shipping.

Enameled red.

Six Bottle Tray.....Price $1.00
Eight Bottle Tray.....Price $1.35



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FOR DISPENSING MOTOR OIL

Use Standard Milk Bottles. They fit the hand. Get them in your town.

6 Spouts.....$2.00
8 Spouts.....$2.65
12 Spouts.....$3.60

Prices f. o. b. Bartlesville
FOR SALE BY JOBBERS

C. C. VAN TINE
Bartlesville, Oklahoma, U.S.A

SINCLAIR OILS

WHETHER you want a light, free-flowing oil for a delicate machine—or a heavy, sturdy oil for a ponderous mechanical giant, you will find it in the grades of oils marketed under this Sinclair Trade Mark. You will find it in exactly the quality you require, at the right price always.

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SINCLAIR OILS

REG U.S PAT OFF

Refinery - Tank Wagon Markets

National Petroleum News

Export Buying, Rumors of Crude Price Advance Hold Market

Staff Special

TULSA, Jan. 30.

CONTINUED export activity, especially in the north Texas field, and persistent rumors of a crude advance soon, tended to keep the Mid-Continent markets on an even keel during the last week in January.

Straight run gasolines showed little change. Natural gasolines tumbled again, but not so rapidly and so far as in the preceding week. Fuel oils were weaker, gas oil and distillates remained firm but quiet, and kerosenes experienced a further tightening in all fields.

Talk of an impending crude price increase kept the trade on edge the entire week. While some are skeptical regarding an increase at this time, others have been expecting each day to hear it announced. Many were certain the advance would come before the end of January, but since that now is an impossibility, they believe the increase will come in the first week in February.

A few refiners admit they would be glad to see a crude price increase at this time, to stimulate buying in practically the entire list. The majority of refiners, however, say they hope the advance will be delayed until later in the year, when an increase would give business sufficient stimulation, and at the same time come when they are in a better position to hold the higher prices which the increase would cause.

Exporters who entered the north Texas field the latter part of last week continued to be in and out again this week, with the result that the higher gravity gasolines are well booked for a good part of February. The price of export grade 64-66, 375 end point gasoline last week had been boosted to 12½ cents, and buyers this week were still willing to take on orders at that price, but were reported to have been resisted in many cases by the refiners.

The representative of one large exporter admitted that his company had been fairly active in both Texas and Group 3 recently, but added that at present they were not buying. Storms at sea have delayed the return of several of the company's tankers, he said, and they now have a large quantity of oils at the docks with no boats in which to load them.

In Group 3 little export activity was reported, except on some U. S. Motor gasoline, an off grade of gasoline. On the other hand a quantity of U. S. Motor gasoline booked last week for export shipment in order that the purchaser also could get a quantity of 64-66, 375 end point gasoline was cancelled at the request of the refiner.

An exporter early in the week had inquiries out for some 61-63 gravity gasoline for export. He was able to place an order for about a million gallons later in the week, at a price reported to have been around 11½ cents.

Domestic Buying Light

As for domestic buying, no refiner could be found who admitted that activities along that line had been anything to boast of. Slightly more jobber buying was reported, inquiries for February shipments began coming in, and instructions for shipment of goods purchased earlier in the month were perhaps in better volume, but all angles considered the week was a dull one for both refiners and marketers.

Few inquiries for purchases of commodities over February are meeting with favor, especially where the prospective purchaser wants to buy on the basis of today's prices or on a flat price almost in line with the spot market of the last few days. Refiners are inclined to believe the February spot market will be better than January's and several are waiting until after Feb. 1 before they quote.

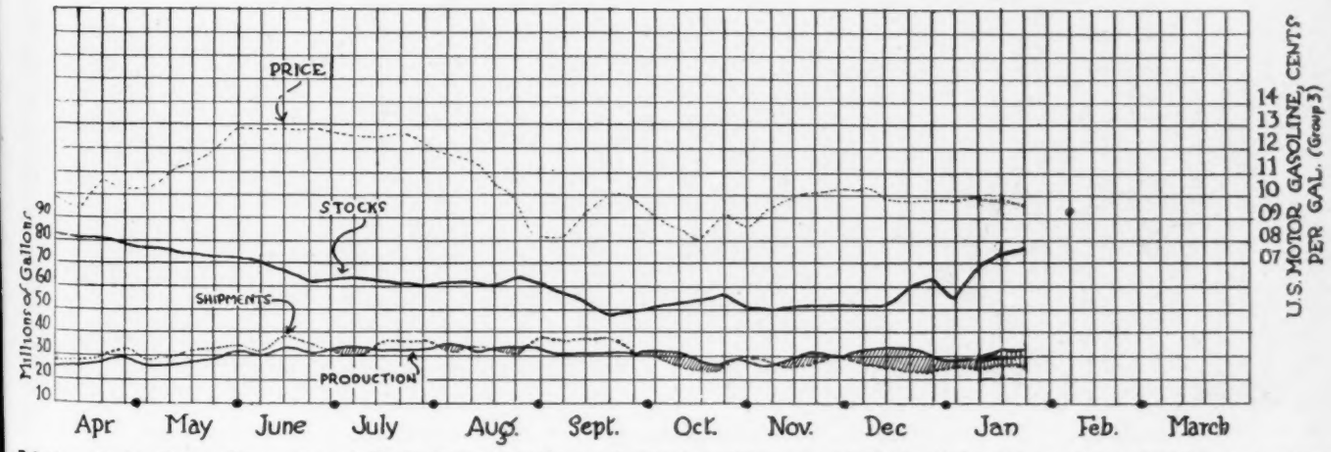
In a few instances some goods have been booked for over the first half of February. Included in this is a small amount of U. S. Motor gasoline reported purchased at around 9½ cents. A quantity of Grade C natural gasoline also has been reported booked for the first half of the month at prices ranging from 7½ to 8 cents.

February Fuel

Future shipments of fuel oils may be one of the biggest problems from the refiner's standpoint in February. Instructions and orders in fuel oils have lagged practically the entire season, and a considerable amount is in storage at present. Orders will have to come in

(Continued on page 101)

Barometer of the Mid-Continent Gasoline Market



Relation of the Group Three price of U. S. Motor Gasoline to Production, Shipments and Stocks of Gasoline at the 124 Mid-Continent plants reporting their figures weekly to National Petroleum News.

Autocar trucks do the work at less cost

4-cylinder Autocars (tank bodies) owned by the Sun Oil Co., Pittsburgh

Many gasoline and oil companies who have operated different makes of trucks will tell you that 4-cylinder Autocars have set a new low standard of operating costs.

Removable bushings, more space available for the pay load, low gas and oil consumption and assurance of more continuous operation by the nation-wide system of Direct Factory Branches are among the most important points which tend to keep Autocar hauling costs low.

***In addition,* Autocars, and Autocars *only,* have the further advantages of engine-under-the-seat design, short wheelbase handiness and compact sturdiness. The more even weight distribution obtainable with Autocars is a distinct economy for owners who have to haul constantly shifting loads of gasoline and oil.**

The Autocar Company, Ardmore, Pa.

ESTABLISHED 1897

Direct Factory "Autocar Sales and Service" Branches or Affiliated Representatives in

*Albany
*Allentown
Altoona
*Atlanta
*Atlantic City
*Baltimore
Binghamton
*Boston
*Bronx
*Brooklyn
*Buffalo
*Camden
*Canton,O.
*Charlotte
*Chester
*Chicago
*Cleveland
Columbus
*Dallas
Denver
*Detroit
*Erie
*Fall River
*Fresno
*Indianapolis
Jacksonville
*Jersey City
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Miami
*Newark
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*New York
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Shamokin
*Springfield
*St. Louis
*Stockton
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Tampa
Trenton
*Washington
West Palm Beach
*Wheeling
Wilkes-Barre
Williamsport
*Wilmington
*Worcester
York

* Indicates Direct Factory Branch

Autocar

gas *and* electric trucks

EITHER OR BOTH - AS YOUR WORK REQUIRES

Refinery Markets on Light Oils and Lubricants

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

GASOLINE AND NAPHTHA

	Prices Feb. 2	Prices Jan. 25	Prices Jan. 18
PENNSYLVANIA			
52-54 Naphtha	11¼-11½	11¼-11½	11¼-11½
54-56 Naphtha	11½-12	11½-12	11½-12
58-60 Gasoline	12 -12½	12 -12½	12 -12½
60-62 Straight-run gasoline	13 -13½	13 -13½	13 -13½
62-64 Straight-run gasoline	-14	-14	-14
64-66 Straight-run gasoline	14½-15	14½-15	14½-15
68-70 Straight-run gas. 350-360 E.P.	-16	-16	-16
68-70 Straight-run gas. 305-320 E.P.	-19	-19	-19
70-72 Straight-run gas. 300-305 E.P.	-20	-20	-20
OKLAHOMA			
48-50 450 E. P. naphtha	9¼-10¼	- 8¼	8¼- 9
50-52 450 E. P. naphtha	9¼-10¼	8¼- 9	9 - 9¼
56-58 450 E. P. gasoline	-10¼	9 - 9¼	9¼- 9½
56-58 U. S. Motor gasoline	10¼-10½	9¼- 9⅜	9⅜- 9⅝
58-60 U. S. Motor 437 E. P.	10¼-10¾	9⅝- 9¾	9¾-10
60-62 400 E. P. gasoline	-12¼	11¼-11½	11¼-11½
64-66 375 E. P. gasoline	13¼-13½	12¼-12½	12¼-12½
68-70 350-360 E. P. gasoline	14 -14¼	13¼-13½	13¼-13½
64-66 437 E. P. blend	10¾-11	9¾-10	10 -10⅛
KANSAS*			
58-60 U. S. Motor gasoline	-10	-10	-10¼
60-62 400 E. P. gasoline	11½-12	11½-12	11½-12
64-66 375 E. P. gasoline	13 -13¼	13 -13¼	13 -13¼
*F. O. B. refinery, Kansas destination.			
NORTH TEXAS			
48-52 450 E. P. naphtha	- 9¼	- 8¼	- 9
56-58 450 E. P. gasoline	9¼- 9¾	- 9	- 9¼
58-60 450 E. P. gasoline	9¾- 9⅞	9⅜- 9¼	9⅜- 9⅝
56-58 U. S. Motor gasoline	9⅞-10	9⅝- 9¾	.....
58-60 U. S. Motor gasoline	10 -10¼	9¾- 9¼	9½- 9⅞
60-62 400 E. P. gasoline	-12¼	11¼-11⅜	11⅜-11⅝
64-66 390 E. P. gasoline	12½-13	12 -12⅜	-12¼
64-66 375 E. P. gasoline	12¾-13½	12¼-12½	12⅜-12⅝
68-70 350-360 E. P. gasoline	13¾-14	12¾-13	13 -13¼
NORTH LOUISIANA			
58-60 U. S. Motor 437 E. P.	10¾-11¼	10 -10¼	10 -10¼
ARKANSAS			
58-60 450 E. P. gasoline	10 -10¼	9¾-10	-10
58-60 U. S. Motor gasoline	10¼-11¼	10 -10¼	10 -10½
64-66 375 E. P. gasoline	13½-13¾	12½-12⅝	12½-12¾
CALIFORNIA			
54-56 U. S. Motor gasoline	-11	-11	-11
42-45 Engine distillate, 445-480 E.P.	8 - 9	8 - 9	8 - 9

Note: This is without the 2-cent state tax included in the price of California refiners for shipments within the state.

NEW ENGLAND (F. O. B. Boston and Fall River)			
U. S. Motor gasoline	12¾-12½	12¼-12½	-12⅛

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F.)

OKLAHOMA			
Grade Double A	- 9¾	- 9½	10 -10½
Grade A	-10	9½- 9¾	10 -10½
Grade Double B	- 9	- 8½	9 - 9¼
Grade B	- 9	- 8½	9 - 9¼
Grade C	- 8¼	7¾- 8	8½- 8¾

NOTE—Specifications adopted by Ass'n of Nat. Gaso. Manufacturers
Grade Double A—80-87.9 gravity, 90% recovery, not over 375 E. P.
Grade A—72-79.9 gravity, 90% recovery, not over 375 E. P.
Grade Double B—84-92 gravity, 85% recovery, not over 375 E. P.
Grade B—76-83.9 gravity, 85% recovery, not over 375 E. P.
Grade C—80-90 gravity, 78% recovery, not over 375 E. P.

NORTH LOUISIANA			
Grade Double A	9½-10	-10½	-10¾
Grade Double B	9 - 9¼	-10	-10¼
Grade C	8¼- 8¾	9¾- 9½	- 9¾
NORTH TEXAS			
*Grade Double A	- 9¾	9½- 9⅝	9¾-10½
*Grade A	9¾- 9½	9½- 9⅝	9¾-10½
*Grade Double B	8¾- 8⅝	8½- 8⅝	9 - 9½
*Grade B	8½- 8¾	8½- 8⅝	9 - 9½
*Grade C	8 - 8¼	7¾- 8⅛	8⅜- 9¼
*F. O. B. Breckenridge.			
CALIFORNIA			
78-84° 375 E. P.	13 -13½	13 -13½	13 -13½
PENNSYLVANIA			
68-70 Grav. 437 E. P.	13 -13½	13 -13½	13 -13½
64-66 Grav. 437 E. P.	13 -13½	13 -13½	13 -13½
60-62 Grav. 437 E. P.	12½-13	12½-13	12½-13
68-70 Grav. 420 E. P.	14 -14½	14 -14½	14 -14½

BURNING OILS

PENNSYLVANIA			
45 Water White Kerosene	7½- 7¾	7½- 7¾	7½- 7¾
46 Water White Kerosene	8¼- 8½	8¼- 8½	8¼- 8½
47 Water White Kerosene	- 9	- 9	- 9
300 Burning Oil	7¾- 8	7¾- 8	7¾- 8
OKLAHOMA			
41-43 Water White Kerosene	5⅞- 6¼	5⅝- 5⅞	5½- 5⅝
42-44 Water White Kerosene	6¼- 6½	6 - 6¼	5¾- 6
KANSAS			
41-43 w. w. kerosene	6 - 6¼	5⅞- 6	5¾- 6
42-44 w. w. kerosene	6¼- 6½	6 - 6¼	6 - 6¼

	Prices Feb. 2	Prices Jan. 25	Prices Jan. 18
NORTH TEXAS			
41-43 Water White Kerosene	6 - 6¼	- 6	- 6
42-44 Water White Kerosene	- 6½	- 6¼	- 6¼
NORTH LOUISIANA			
41-43 Water White Kerosene	6¼- 6½	6 - 6¼	6 - 6¼
ARKANSAS			
41-43 Water White Kerosene	6¼- 6½	6 - 6¼	6 - 6¼
CALIFORNIA			
40-42 Water White Kerosene	5 - 5½	5 - 5½	5 - 5½
NEW ENGLAND			
40-43 Water White Kerosene	.....	.....	.....

NEUTRAL OIL

PENNSYLVANIA (Viscosity at 70° F.)			
220 Vis. No. 3 Assoc. Filt	-28½	-28½	-28½
200 Vis. No. 3 Assoc. Filt	-26	25½-26	25½-26
180 Vis. No. 3 Assoc. Filt	23 -23½	-23½	-23½
150 Vis. No. 3 Assoc. Filt	19½-20½	19½-20½	-19½
(Non-Viscous)			
34 Grav. 350-360 Flash	8 - 8½	8¼- 8½	8¼- 8½
36 Miners Neutrals 300-305 Flash	7½- 7¾	7½- 7¾	7½- 7¾
OKLAHOMA (Viscosity at 100° F.)			
100 Vis. No. 2 color	5½- 6	5½- 6	5½- 6
150 Vis. No. 3 color	9 -10	9 -10	9 -10
150 Vis. No. 4 color	- 8¾	- 8¾	- 8¾
180 Vis. No. 3 color	9¾-10½	9¾-10½	9¾-10½
180 Vis. No. 4 color	9½-10½	9½-10½	9½-10½
180 Vis. No. 5 color	- 9¾	- 9¼	- 9¼
200 Vis. No. 3 color	10¾-11½	10¾-11½	10¾-11½
200 Vis. No. 4 color	-10½	-10½	-10½
200 Vis. No. 5 color	9¾-10½	9¾-10½	9¾-10½
220 Vis. No. 3 color	-11¾	-11¾	-11¾
220 Vis. No. 4 color	12 -12¼	12 -12¼	12 -12¼
220 Vis. No. 5 color	-11¾	-11¾	-11¾
240 Vis. No. 3 color	-14	-14	-14
240 Vis. No. 4 color	-13½	-13½	-13½
240 Vis. No. 5 color	-13	-13	-13
280 Vis. No. 3 color	-16	-16	-16
280 Vis. No. 4 color	-15½	-15½	-15½
280 Vis. No. 5 color	-15	-15	-15
300 Vis. No. 5-6 color	17 -17½	17 -17½	17 -17½
GULF COASTAL (Viscosity at 100°F; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	7½- 8	7½- 8	7½- 8
200 Vis. No. 3 Color Unfilt. Pale	11½-12	12½-13	12½-13
300 Vis. No. 3 Color Unfilt Pale	13½-14	14 -14½	14 -14½
500 Vis. No. 3½ Color Unfilt. Pale	15½-16	16 -16½	16 -16½
750 Vis. No. 4 Color Unfilt. Pale	19½-20½	20½-21	20½-21
200 Vis. No. 5½ Color Red Oil	10 -10½	10½-11	10½-11
300 Vis. No. 5½ Color Red Oil	12 -12½	12 -12½	12 -12½
500 Vis. No. 6 Color Red Oil	13½-14	13½-14	13½-14
750 Vis. No. 6 Color Red Oil	18 -18½	18 -18½	18 -18½
CALIFORNIA (Viscosity at 100° F.)			
100 Vis. No. 2 color	13½-14½	13½-14½	13½-14½
100 Vis. No. 3 color	9 -10	9 -10	9 -10
200 Vis. No. 3 color	14½-15½	14½-15½	14½-15½
300 Vis. No. 3 color	14 -16	14 -16	14 -16
450 Vis. No. 3½ color	19½-20½	19½-20½	19½-20½
550 Vis. No. 3 color	21½-22½	21½-22½	21½-22½
600 Vis. No. 3½ color	23½-24½	23½-24½	23½-24½
100 Vis. No. 5 color	8 - 9	8 - 9	8 - 9
200 Vis. No. 5 color	13½-14½	13½-14½	13½-14½
300 Vis. No. 5 color	14 -15	14 -15	14 -15
400 Vis. No. 5 color	16 -17	16 -17	16 -17
500 Vis. No. 5 color	17 -18	17 -18	17 -18
600 Vis. No. 6 color	18 -19	18 -19	18 -19
700 Vis. No. 7 color	19½-20½	19½-20½	19½-20½

CYLINDER STOCKS

OKLAHOMA			
190-210 Vis. at 210° Bright Stock	30 -35	30 -35	30 -35
150-160 Vis. at 210° Bright Stock	17 -31	27 -31	27 -31
600 E Stock, 140-150 Vis. @ 210°	18 -20	18 -20	18 -20
600 Steam Refined Olive Green	8½-10	8½-10	8½-10
600 Steam Refined Dark Green	6 - 6¼	6 - 6¼	6 - 6¼
Black Oil	- 5	- 5	- 5
PENNSYLVANIA (1-inch Immersion Test)			
600 Steam Refined	18 -19	18 -19	18½-19
635 Steam Refined	21½-22	21½-22	21½-22
650 Steam Refined	23½-24½	23¾-24½	-24
600 Flash	26 -27	26 -27	27 -27½
600 Warren E	22½-23	22½-23	-23
600 Oil City E	-22	-22	-22
600 Filtered D	28 -29	-29	-29
Cold Test Stocks (bright filtered)	38 -39	38 -39	-39
Cold Test Stock (dark filtered)	36 -37	36 -37	-37
Black Oil	- 8	- 8	8 - 8½

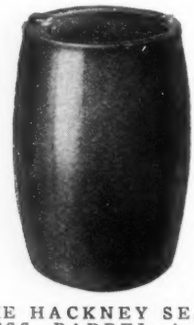
(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher.)

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

THE HACKNEY DRUM has the same type raised openings that protect the Seamless Barrel against water and dirt getting in the barrel contents. In addition the Hackney Drum has integral hoops and the chimes are brazed over an area that is eight times that of the ordinary weld. That's real drum strength.

THE HACKNEY TWO-PIECE BARREL has but one seam and that is circumferential at a point above the rolling surface. The chimes and heads are pressed integrally with the barrel body. That's the kind of construction that defeats nose dives and assures long and continuous service.

THE HACKNEY TWO-PIECE DRUM is made from two solid pieces of sheet steel. The only seam is circumferential. The chimes and heads are integral with the body. Two I-Bar hoops provide additional rigidity and strength and make rolling easy.



THE HACKNEY SEAMLESS BARREL is the ideal container for continuous service. The body is pressed from a solid sheet of steel. Absolutely no chance for leakage there. And the absence of seams means extraordinary long service.

Water Can't Sneak In

See the two little dry islands on the head of this Hackney Seamless Barrel. They are the patented Hackney raised openings.

Water and dirt can't sneak into them even with the plugs removed as they are here.

Coupled with this feature is solid, rigid barrel strength. The entire body is pressed from a single sheet of steel. The head chime is brazed over an area that is eight times that of the ordinary weld.

Result--many, many trips in spite of abuse. And water and dirt cannot get in to spoil the contents. Sizes 55 and 33 gallon.

For detailed information and quotations on this, or other Hackney products drop a letter to--

The PRESSED STEEL TANK COMPANY—Milwaukee, Wis.

1141 Continental Bank Bldg. Chicago, Ill.

1317 Vanderbilt Concourse Bldg. New York City

5719 Greenfield Ave., Milwaukee, Wis.

Refinery Markets on Wax and Heavy Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

WAX

PENNSYLVANIA	Prices Feb. 2	Prices Jan. 25	Prices Jan. 18
	(Per Pound, New York)		
122-124 White Crude Scale..	– 5⅜	– 5⅜	– 5⅜
124-126 White Crude Scale..	– 5½	– 5⅝	– 5⅝
OKLAHOMA			
	(Per Pound, Group 3)		
124-126 White Crude Scale..	– 4⅞	– 4⅞	5
CALIFORNIA			
White Crude Scale.....	6 – 6½	6 – 6½	6 – 6½

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil.....	6¼– 6½	6¼– 6¾	6½– 6¾
30-34 Fuel Oil.....	6 – 6¼	6 – 6¼	6 – 6¼
28-30 Fuel Oil.....	5¾– 6	5¾– 6	5¾– 6
OKLAHOMA			
38-40 Straw distillate.....	3⅞– 4	3⅞– 4	4 – 4⅛
36-38 Straw distillate.....	3⅜– 3¾	3⅝– 3¾	3⅞– 4
32-36 Gas oil (Gal.).....	3⅜– 3¾	3⅜– 3¾	3⅝– 3¾
26-30 Fuel oil (Bbl.).....1.22½–1.27½		1.25 –1.30	1.30 –1.35
24-26 Fuel Oil (Bbl.).....1.17½–1.20		1.20 –1.25	1.25 –1.30
18-22 Fuel Oil (Bbl.).....1.15 –1.17½		1.15 –1.20	1.20 –1.25
KANSAS*			
38-40 Light straw distillate..	4¼– 4½	4¼– 4½	4¼– 4⅜
36-38 Light straw distillate..	4 – 4⅛	4 – 4⅛	4 – 4⅛
32-36 gas oil.....	3¾– 4	3¾– 4	3¾– 4
24-26 Fuel oil.....1.20 –1.25		1.20 –1.25	1.35 –1.45
26-30 Fuel oil.....1.25 –1.35		1.25 –1.35	1.30 –1.35

*F. O. B. refinery, Kansas destination.

NORTH TEXAS	Prices Feb. 2	Prices Jan. 25	Prices Jan. 18
36-40 Straw Distillate.....	3¾– 3⅞	3¾– 3⅞	3¾– 3⅞
32-36 Gas Oil (Gal.).....	3⅜– 3½	– 3½	3½– 3¾
24-26 Fuel per (Bbl).....1.25 –1.30		1.25 –1.30	1.30 –1.35
GULF COASTAL			
Fuel.....1.55 –1.65		1.55 –1.65	1.55 –1.65
Gas Oil.....	– 5	– 5	– 5
NORTH LOUISIANA			
32-36 Light Gas Oil (Gal.)...	3¾– 4	3¾– 4	3¾– 4
18-22 Fuel Oil (Bbl.).....1.10 –1.15		1.10 –1.15	1.10 –1.15
ARKANSAS			
32-36 Gas Oil.....	3¾– 4	3¾– 4	3¾– 4
Smackover Crude Fuel.....1.05 –1.07½		–1.05	1.00 –1.05
CALIFORNIA*			
14-18 Fuel Oil (Bbl.).....	1.00	1.00	1.00
14-18 Bunker Oil (Bbl.).....	1.00	1.00	1.00
24-30 Gas Oil (Bbl.).....	1.15	1.15	1.15
27 + Diesel Oil (Bbl.).....	1.15	1.15	1.15

*(San Joaquin Valley, San Francisco 4c per bbl. more.)

NEW ENGLAND (F. O. B. Boston and Fall River)			
30-32 gas oil (gal.).....	– 5⅝	– 5½	– 5½
Fuel Oil (Bunker C) bbl.....	–1.82½	–1.82	–1.82½

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

(Continued from page 97)

fast in order to keep the market at its present level, according to the opinion of several in close touch with that group of commodities. February will just about close the season for fuels and stove distillates, and refiners are giving inquiries for quotations over the month considerable more thought than they are on some of the other commodities which have been moving from their tanks in larger quantities.

The kerosene situation was well illustrated by a Tulsa representative of a large marketing company who on Wednesday afternoon called 22 refiners in the Mid-Continent, and was able to find only eight cars of 41-43 water white kerosene for prompt shipment. In no instance was the price lower than 5⅞ cents. Reports from 124 refiners to the National Petroleum News showed that on Jan. 22 stocks of kerosenes totaled approximately eight million gallons, whereas the shipments for the week ended the same date, the total was approximately five million gallons. The production for the same week was slightly less than the shipments indicating that the refiners are not only shipping out all the kerosene they can produce, but also are slowly eating into their none too small reserve stocks.

Natural Gasoline Weak

Natural gasolines were the weakest in the list again this week, and but for considerable buying of Grade C Thursday and Friday, business was extremely slow for the manufacturers.

The bulk of the buying of Grade C was by the representative of a large refining company which took most of its natural gasoline on contract last year. This company had announced previously that it would buy on the open market this year, and this week's purchases were the first of any consequence by them since their contracts expired Jan. 1. The material was purchased in both Texas and Oklahoma for shipment to refineries in several parts of the country.

When word was circulated that the buying on Grade C was under way, several other users of this material who had stayed out of the market began coming in to cover before prices went up with the result that practically all the distress Grade C in the field was rolled from the loading racks. Several manufacturers who on Wednesday reported their trackage well loaded with filled tank cars, Saturday morning said they had moved practically all their material. Broker buying for speculation also took up its share of Grade C.

U. S. Motor Wavers

U. S. Motor gasoline in Group 3 wavered between 9½ and 9¾ cents the entire week, after having slipped under the higher price Monday. The market was dull but ready to react to the slightest influence. The determination of refiners not to sell below 9⅝ cents per gallon, coupled with the fact that a majority of them were willing to run up their storage at present in anticipation of increased jobber buying should crude be advanced, accounted largely for the failure of the price to go lower.

The sales manager of one of the larger refineries in Group 3 said that in his opinion the marketers and jobbers were really helping the refiners at this time with their policy of hand-to-mouth buying. The only thing he feared, he said, was the inability of the jobber leaders to hold their followers in line when

All prices and market information printed herein have been gathered by the staff of National Petroleum News from reliable sources and so far as can be ascertained thoroughly represent the going market as defined for each product on the date given for those particular prices. Both buyers and sellers have been checked in the gathering of this information and actual sales studied.

These prices and this information are subject at all times to correction for errors. Anyone having knowledge of any facts which would indicate anything different from the information which is given, is especially urged to send in those facts to the head office of National Petroleum News at once, or take them up with the nearest representative. All such facts will be promptly and thoroughly investigated.

The staff of National Petroleum News is cognizant of the fact that this market information has come to have a high standing in the industry. It wants to not only maintain that standing, but to improve it and to that end, invites the co-operation of the entire oil industry.

the market takes a turn upward. The jobbers will be inclined to break away and begin filling their storage tanks, then leave the refiners facing a lull just when they could least cope with it. As the situation now stands, he said, none of the refiners are suffering. They are getting enough business to keep going and those who have the facilities are adding a little to storage right along.

The lower gravity gasolines remained soft in sympathy with Motor. The higher gravities, however, stood on their own feet throughout the week, with no indication of weakness, due to export orders previously placed for delivery over the remainder of January and the first part of February.

Because of the cold weather, Grade A and B natural gasoline were scarce. Grades AA, BB and C, however, were plentiful with little demand. The prices of these grades went off from ½ to ¾ cent during the week. The buying of Grade C, however, was sufficient to take care of that commodity at least for a short time.

As already mentioned, Texas markets were kept well on edge. With export orders first on the books, many of the refiners cut U. S. Motor as a sideline, and in order to keep it moving from their plants, some cheap gasoline was offered throughout the week. Toward the end, however, the "crude increase gossip" got to working in that field, and U. S. Motor gasoline was stiffened slightly.

E. F. Griswold of the Wilson Bros. Refining Co., Wichita Falls, Tex., created a mild stir the latter part of the week when he contracted for about 225 cars of low gravity gasolines ranging from 56-58, 450 e.p. to 58-60 U. S. Motor gasoline. He is said to have bought gasoline for February shipment, paying from 9 to 9½ cents, according to the product.

Speculation was rife as to what he intended to with the gasoline. One report had it that he was going to divert the gasoline to the account of the Pierce Petroleum Corp., which operates a large number of filling stations in Texas. He was to get the daily market price for his goods, based on Platt's Oilgram quotations.

Another report stated that he was going to rerun the material in his own refinery, taking the toppings for higher gravity gasoline for domestic trade since most of the refiners in Texas were running export high gravities, and was to blend the lower ends. What he couldn't rerun he intended to sell on the open market, taking a chance that prices would be higher in February.

Natural gasolines in Texas were, if anything, weaker than in Group 3, with the possible exception of Grade C. Blending for export requirements called for some of this grade, and since there was not as much in Texas as has been turned out in Oklahoma, the price resisted the "pull" of the other Grades considerably.

Efforts to buy kerosene in Group 3 for shipment same day as purchased were futile. Efforts to buy the commodity in large quantities were also useless. Early in the week 41-43 w. w. kerosene as low as 5¾ cents was almost impossible to find, and the price soon moved up to a top of 6 cents, with some 5⅞ cent stuff available if one shopped long enough.

Texas was in even a tighter fix than Group 3 on its kerosene. A nominal price of 6 cents was placed on the 41-43 w. w. grade, but it was hard to find, and sales as high as 6¼ cents were reported. No 42-44 kerosene was being cut in Texas. In Kansas the market on 41-43 kerosene also became strong near the end of the week at prices ranging from 6 to 6¼ cents. Only one refinery was cutting kerosene in Arkansas, and the price was put at 6¼ to 6½ cents, "take it or leave it." The same prices prevailed in north Louisiana.

Stove distillates, with February inquiries coming in the latter part of the week and shipments also perking up, showed a tendency to stiffen, but not sufficiently to justify price revisions before the end of the week.

Fuel oils, likewise, showed signs of firming while February buying was in order. In Texas the monthly flurry when the Denver City railroad buys its supply for the month on the open market, was geting under way as the week closed but it was doubtful whether the purchase this month would have the same effect as on former occasions, when the fuel oil market was considerably bolstered apparently for the benefit of the railroad.

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Week's Price Changes in Tank Wagon Markets

Gasoline Changes

Standard of Indiana—T.w. and s.s. prices advanced 2 cents, Duluth, to 19.5 cents and 21.5 cents respectively, **Jan.** 26.

Atlantic Refining—T.w. and s.s. prices reduced 2 cents, Erie, to 15 cents and 20 cents, respectively, **Jan. 11.**

Magnolia Petroleum—T.w. price only cut 1 cent, Houston, to 16 cents, **Jan.** 23.

Kerosene Changes

Atlantic Refining—T.w. price advanced 1 cent, Pennsylvania and Delaware, to 15 cents, **Jan. 29.**

Magnolia Petroleum—T.w. cut 1 cent, Dallas, to 11 cents, **Jan. 27.**

Price-Cutting at Savannah

SAVANNAH, GA., Feb. 1.—Oil men here report that tank wagon and service station prices of gasoline at Savannah have both been 17 cents including 3½ cents road tax, since Dec. 8.

The official posted prices of the Standard Oil Co. of Kentucky are 17 cents tank wagon, and 20 cents service station, including taxes.

Michigan Has New Petroleum Club

GRAND RAPIDS, MICH., Jan. 29.—The Muskegon Petroleum Club was formed at Muskegon, Mich., on Jan. 27, during a meeting at the Century Club when every Independent oil distributor of the city was represented, according to James A. Gilmore, secretary of the Michigan Independent Oil Men's Association, who was instrumental in organizing the new club.

Officers are: C. J. Westlund, Cardinal Petroleum Co., president; John Stevens, Muskegon Co-operative Oil Co., secretary; A. E. Dunn, Broadway Oil Co., treasurer. The object of the club is to improve marketing conditions through regular meetings, at which round table discussions of ways and means to improve will take place among friends instead of competitors, according to Mr. Gilmore.

A code of ethics for adoption at the next meeting of the club will be prepared by Mr. Gilmore. The meeting will be held on Feb. 10 at the Century Club at Muskegon.

TULSA, Jan. 28.—A number of directors of the Wiser Oil Co. are making an inspection of properties of this and affiliated companies in the Mid-Continent. The party includes E. A. Durham, A. C. Jackson, W. L. Sutton, W. S. Sugden, J. W. Cushing, P. W. Neuenschwander, J. P. Flynn, M. B. Hutchinson and W. H. Fitzgerald.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

BELOW are given in cents a gallon, the tank wagon price of gasoline without the special taxes levied against motor fuels by many states, the amount of the state taxes, the total tank wagon price, with tax added in and the service station or retail price of gasoline as quoted by the Standard Oil Companies in their various marketing territories. The right hand column is the tank wagon price of kerosene. By tank wagon price is meant the price to resale agents or dealers.

These Prices in Effect February 1, 1926

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Atlantic City, N. J.	15	0	15	*	14
Newark, N. J.	15	0	15	17	14
Annapolis, Md.	15	2	17	*	13.5
Baltimore, Md.	15	2	17	20	11
Cumberland, Md.	15	2	17	20	14
Washington, D. C.	15	2	17	20	13
Danville, Va.	15	3	18	*	14
Norfolk, Va.	15	3	18	21	14
Richmond, Va.	15	3	18	21	14
Roanoke, Va.	15	3	18	21	14
Petersburg, Va.	15	3	18	*	14
Williamsburg, Va.	15	3	18	*	14
Charleston, W.Va.	15	3½	18.5	21.5	14
Clarksburg, W.Va.	15	3½	18.5	21.5	14
Keyser, W.Va.	15	3½	18.5	*	14
Parkersburg, W.Va.	15	3½	18.5	21.5	14
Wheeling, W.Va.	15	3½	18.5	21.5	14
Charlotte, N. C.	15	4	19	22	14
Hickory, N. C.	15	4	19	*	14
High Point, N. C.	15	4	19	*	14
Mt. Airy, N. C.	15	4	19	*	14
Salisbury, N. C.	15	4	19	*	14
Charleston, S. C.	15	5	20	23	14
Columbia, S. C.	15	5	20	23	14

*Dealers set own prices. S.O. New Jersey does not operate station.

S. O. NEW YORK

*New York City	17	0	17	21	15
Albany, N. Y.	†17	0	†17	†19	15
Buffalo, N. Y.	15	0	15	18	15
Rochester, N. Y.	†16	0	†16	†20	15
Syracuse, N. Y.	17	0	17	19	14
Boston, Mass.	17	0	17	20	13
Augusta, Me.	17	3	20	23	15
Manchester, N. H.	17	2	19	23	15
Burlington, Vt.	19	2	21	24.5	15

*In steel barrels.

†At Rochester and Albany, Standard sells two grades of gasoline, the above price applying to its Socony grade, and another grade being sold 2c below this price.

ATLANTIC REFINING

Pittsburgh, Pa.	17	0	17	*22	15
Philadelphia, Pa.	17	0	17	*22	15
Allentown, Pa.	17	0	17	*22	15
Erie, Pa.	15	0	15	*20	15
Scranton, Pa.	17	0	17	*22	15
Altoona, Pa.	17	0	17	*22	15
Dover, Del.	17	2	19	22	15
Wilmington, Del.	17	2	19	22	15
Providence, R. I.	17	1	18	21	14
Springfield, Mass.	17	0	17	19	14.5
Worcester, Mass.	17	0	17	19	14.5
Hartford, Conn.	17	2	19	21	13.5
New Haven, Conn.	17	2	19	22	14
Boston, Mass.	17	0	17	20	14

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	15	3	18	21	15
Louisville, Ky.	17	3	20	23	13
Covington, Ky.	17	3	20	23	15
Clarksdale, Miss.	16	3	19	22	13
Jackson, Miss.	16	3	19	22	12
Natchez, Miss.	15.5	3	18.5	21.5	12.5
Vicksburg, Miss.	15.5	3	18.5	21.5	12.5
Birmingham, Ala.	17	2	19	22	15.5
Mobile, Ala.	16	2	18	21	13
Montgomery, Ala*	18	2	20	23	16.5
Atlanta, Ga.	†18	3½	22	25	16
Augusta, Ga.	†18	3½	22	25	15.5
Macon, Ga.	†18	3½	22	25	14.5
Savannah, Ga.	†18	3½	17	20	14
Jacksonville, Fla.	16	4	20	23	14
Miami, Fla.	18	4	22	25	15.5
Tampa, Fla.	16	4	20	23	14
Pensacola, Fla.	16	4	20	23	14.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

†Georgia has ½ cent per gal. inspection fee on gasoline which is deducted as well as the state gasoline road tax of 3½ cents, to get the actual net tank wagon market to dealer.

S. O. INDIANA

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Chicago, Ill.	†16	0	†16	18	11
Decatur, Ill.	16.2	0	16.2	18.2	11.5
E. St. Louis, Ill.	15.1	0	15.1	17.35	10.6
Joliet, Ill.	16.4	0	16.4	18.4	11.7
Peoria, Ill.	10.5	0	10.5	12.5	11.5
Quincy, Ill.	16.2	0	16.2	18.2	11.3
Indianapolis, Ind.	16.2	3	19.2	21.2	11.7
Evansville, Ind.	16	3	19	21	11.5
South Bend, Ind.	16.4	3	19.4	21.4	11.9
Detroit, Mich.	16.8	2	18.8	20.8	12.2
Grand Rapids, Mich.	16.7	2	18.7	20.7	12.1
Saginaw, Mich.	16.9	2	18.9	20.9	12.3
Madison, Wis.	16.3	2	18.3	20.3	11.5
Milwaukee, Wis.	16.1	2	18.1	20.1	11.3
La Crosse, Wis.	17.2	2	19.2	21.2	12.4
Minneapolis, Minn.	15.2	2	17.2	19.2	12.6
Duluth, Minn.	17.5	2	19.5	21.5	12.6
Mankato, Minn.	17.1	2	19.1	21.1	12.4
Des Moines, Iowa.	16.5	2	18.5	20.5	11.9
Davenport, Iowa.	16.5	2	18.5	20.5	11.9
Sioux City, Iowa.	16	2	18	20	11.5
Mason City, Ia.	16.5	2	18.5	20.5	11.9
St. Louis, Mo.	**15.6	2	17.6	19.9	11
Kansas City, Mo.	††16.9	2	18.9	20.9	10.8
St. Joseph, Mo.	**16	2	18	20	10.9
Fargo, N. D.	18.9	1	19.9	21.9	14.6
Grand Forks, N.D.	19.2	1	20.2	22.2	14.9
Minot, N. D.	18.9	1	19.9	21.9	14.6
Pierre, S. D.	18	3	21	*	13.1
Huron, S. D.	14	3	17	19	13.1
Wichita, Kans.	15.8	2	17.8	19.8	10.8
Bartlesville, Okla.	13.9	3	16.9	18.9	9.9

†Dumps of 100 or more gallons at 15c per gallon.
*S. O. Indiana does not operate station.
**Includes city tax of ½c.
††Includes city tax of 1c.

S. O. NEBRASKA

Crawford, Neb.	17	2	19	*	12.25
Omaha, Neb.	15.25	2	17.25	19.25	11.5
McCook	17.75	2	19.75	21.75	13
Norfolk	16.75	2	18.75	20.75	12
North Platte	17.75	2	19.75	21.75	12.75
Scottsbluff	17.25	2	19.25	21.25	12.25

*Standard has no service station here.

CONTINENTAL OIL

Denver, Colo.	17	2	19	21	14.5
Pueblo, Colo.	17	2	19	21	14.5
Casper, Wyo.	17	2½	19.5	21.5	13
Cheyenne, Wyo.	18	2½	20.5	22.5	14.5
Butte, Mont.	19	2	21	21	16
Helena, Mont.	21	2	23	25	17
Salt Lake City, Utah.	19.5	3½	23	25	18
Boise, Ida.	21	3	24	26	20
Albuquerque, N.M.	20.5	3	23.5	26.5	16.5

S. O. CALIFORNIA

Phoenix, Ariz.	20	3	23	26	21.5
Los Angeles, Cal.	10.5	2	12.5	18.5	15.5
Fresno, Cal.	14.5	2	16.5	20.5	17.5
San Francisco, Cal.	14	2	16	20	15.5
Reno, Nev.	17.5	4	21.5	25.5	19
Portland, Ore.	14	3	17	21	16.5
Seattle, Wash.	14	2	16	20	16.5
Spokane, Wash.	18	2	20	24	20.5
Tacoma, Wash.	14	2	16	20	16.5

S. O. LOUISIANA

Little Rock, Ark.	14	4	18	21	13.5
Alexandria, La.	14	2	16	19	13.5
Baton Rouge, La.	13	2	15	18	12
Lake Charles, La.	14.5	2	16.5	19.5	13.5
New Orleans, La.	*14.5	2	16.5	19.5	12.5
Shreveport, La.	13	2	15	18	12.5
Lafayette, La.	14	2	16	19	13
Bristol, Tenn.	15.5	3	18.5	21.5	15
Chattanooga, Tenn.	14	3	17	20	13
Knoxville, Tenn.	15	3	18	21	15.5
Nashville, Tenn.	14	3	17	20	15
Memphis, Tenn.	15.5	3	16.5	19.5	14.5

*Includes 1c city tax on gasoline and kerosene.

S. O. OHIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
All Ohio points	18	2	20	22	14

MAGNOLIA PETROLEUM

Muskogee, Okla.	16	3	19	22	9
Oklahoma City	16	3	19	22	12
Tulsa, Okla.	14	3	17	20	12
Fort Smith, Ark.	14	4	18	21	13.5
Little Rock, Ark.	14	4	18	21	13.5
Texarkana, Ark*	16	4	20	23	12.5
Dallas, Tex.	14	1	15	19	11
El Paso, Tex.	17	1	18	19	13
Fort Worth, Tex.	13	1	14	16	10
Houston, Tex.	15	1	16	19	12
San Antonio, Tex.	14	1	15	16	10

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax. In Texarkana district outside of the city the 4c state tax applies.

V. M. & P. NAPHTHA

Changes ordinarily occur coincident with gasoline)

	Oleum Spirits	V.M.&P. Naphtha	Cleaners Naphtha
Chicago	18	20	20
Detroit	19.2	21.7	21.7
Kansas City	18.2	20.2	20.2
Milwaukee	18.2	22.7*	22.7*
Minneapolis	19.5	24*	24*
St. Louis	17.4	19.9	21.2
New York		17	....

*Including state tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Toronto	23.5	3	26.5	30	20
Ottawa	24.5	3	27.5	31	21
Cochrane	28.5	3	31.5	35	24.5
Ft. William	27.5	3	30.5	34	22.5

MANITOBA

Winnipeg	27.5	3	30.5	34	22.5

SASKATCHEWAN

Regina	30.5	0	30.5	34	25.5

ALBERTA

Edmonton	31.5	2	33.5	37	27.5
Calgary	29.5	2	31.5	35	25.5

BRITISH COLUMBIA

Vancouver	21	3	24	28	23

QUEBEC

Montreal	23.5	3	26.5	30	20
Quebec City	25.5	3	28.5	32	22
Three Rivers	25.5	3	28.5	32	22

NEW BRUNSWICK

St. John	26.5	0	26.5	31	25
Moncton	26.5	0	26.5	31	25

NOVA SCOTIA

Halifax	26.5	3	29.5	33	23
Sydney	28.5	3	31.5	32	25

PRINCE EDWARD ISLAND

Charlottetown	26.5	2	28.5	33	23

Note: In districts surrounding these points 1c additional is added to city price.

Complete Export Markets

New York Gulf Coast California

Foreign Demand for Gasoline and Kerosene is Lagging

By Special Correspondent
NEW YORK, Feb. 1

EXPORT demand for gasoline and kerosene lagged last week but inquiries were more numerous. Prime white kerosene was off ¼ cent in the Gulf region while water white was marked up ¼ cent. Motor gasoline was weak at 11 cents, Gulf.

Gas oil is slightly firmer in the New York market although prices are unchanged. Conditions in the wax market are improving although prices are still pegged with little business stirring. Pennsylvania cylinder stocks are weak.

Gasoline—New York

Export demand for gasoline was disappointing. There was an inquiry for a cargo of 45,000 barrels of U. S. Motor and 64 gravity gasoline along with prime and water white. However, buyers' ideas were appreciably below refiners'. Motor was quoted at 11¼ cents with indications that 11 cents might have been done in one or two directions on a bid. The inquiry was attributed to a large French concern.

A Scandinavian buyer was inquiring for a mixed cargo of Motor and 64 gravity gasoline, and kerosene, but this appeared to be in the nature of a feeler and nothing developed. One of the large Independents booked an order from the Far East for 40,000 cases of Motor and 64 gravity gasoline for shipment over February. There was an inquiry from South America for 15,000 cases of Motor and 64 gravity gasoline for February shipment, but this is hanging fire.

Gasoline—Gulf Ports

As the week ended, U. S. Motor was quoted at 11 cents and 64 gravity at 14¼ cents a gallon with persistent rumors that these prices could have been shaded ¼ cent a gallon on a firm bid. One of the leading refiners is reported to have closed a cargo of 42,000 barrels for February shipment to France at 11 cents for Motor, 14¼ cents for 64; 6¾ cents for prime white and 8¼ cents for water white.

A United Kingdom buyer is reported to be in the market for 40,000 barrels of Motor; 64 gravity, prime and water white kerosene for February shipment but as a rule Europeans are reluctant to pay present asking prices. However, refiners feel that the big continental distributing houses will start anticipating their spring and summer needs shortly. One of the big Independents is asking 12 cents for U. S. Motor and 15 cents for 64-66 gravity for April loading.

Cased gasoline remained quiet. One of the leading Independents is working on an inquiry for 30,000 cases for nearby shipment to the Far East but no sales of consequence were reported. There is a fair consignment movement to the west coast of Africa.

Gasoline—Domestic

In tank cars delivered to the jobbing trade in this vicinity U. S. Motor is still held at 12½ cents a gallon while at Philadelphia refineries 11¼ to 11½ cents is asked. At New York harbor refineries 11½ cents is quoted. Demand from jobbers is light but the inquiry is more active and refiners look for a good demand shortly. The price in steel drums to garages is still 17 cents a gallon.

Kerosene—New York

Demand for water white kerosene is slightly better at 8¼ to 8½ cents a gallon at the local refineries. Export business has been spasmodic, but refiners are reluctant to consider counter bids. Stocks on hand are about normal for this time of the year. Prime white is quoted at 7½ cents a gallon at the refineries. Cased kerosene is quiet. There is still a fair movement against standing contracts. There was an inquiry from China for 35,000 cases of kerosene for February shipment but this is still pending.

Kerosene—Gulf Ports

As the week ended prime white was easier at 6¾ cents a gallon while water white was advanced ¼ cent a gallon to 8¼ cents in bulk. Most of the big refiners were asking from 7 to 7¼ cents for prime and 8 to 8¼ cents for water white at the beginning of the week, but were forced to quote 6¾ cents for the former to meet competition. Cased water white, however, was still quoted at $1.70 and prime at $1.60 in cargo lots. Business has been lighter than expected. A South American buyer is reported to have purchased 12,000 cases of kerosene at these prices for February shipment but confirmation is lacking.

Kerosene—Domestic

Domestic demand for kerosene is falling off. Jobbers are fairly well covered and are not showing much interest in futures. Spot water white in tank cars delivered to the New York jobbing trade is quoted at 9½ cents a gallon. At the refineries the price was 8¼ to 8½ cents with indications that 8 cents might have been done on a firm bid.

Waxes—New York

While there were few price fluctuations at any time, the undertone of this market is improving. Prices are pegged, little or no trading having developed, but refiners and holders are much more confident as a result of an improved domestic inquiry. Foreign buyers are still disinterested at present quotations. There was virtually no white crude scale 122-124 A.m.p. to be had below 5¼ cents a pound. Fully refined 120-122 A.m.p. was in small demand at 6 cents a pound, but practically nothing was available below this figure. Semi-refined wax was dull and unchanged while match wax was neglected.

Waxes—Gulf Ports

Little or no trading developed in this market, but prices were steadier than a week ago, and holders are reluctant to consider lower counter bids. For white crude scale 124-126 A.m.p. the asking price was steady at 5¼ cents a pound while semi-refined 124-126 was held at 5.30. Fully refined was offered a little more sparingly with sellers asking 5.95 cents a pound for 125-127 A.m.p. and 6.10 cents for 128-130 A.m.p. while 133-135 was held at 6⅜ cents and 135-137 was quoted at 6⅞ cents a pound.

Gas Oil—New York

Export demand lagged but prices, although unchanged, are firmer with leading refiners unwilling to shade. For 36-40 at local refineries 5½ cents is still quoted while 28-34 is firmly held at 5¼ cents a gallon, at the refineries. The big European consumers are apparently finding it cheaper to purchase Galician gas oil, as no bulk inquiries have been reported in over a week. Domestic consumption is gaining.

Gas Oil—Gulf Ports

Some of the Gulf refiners have marked up their prices a trifle. For 26-28 transparent the price ranges from 4¾ to 5¼ cents a gallon with most factors quoting 5 cents a gallon while 32 plus dark is held at 4⅝ to 4⅞ cents a gallon. No export sales were reported, although it was rumored that one of the big refiners was working on a cargo of 28,000 barrels for February shipment to Europe.

Lubricants—New York

Pennsylvania cylinder stocks were weaker. For 600 steam refined in barrels, New York, the asking price is 25 cents a gallon with a few sellers asking

26 cents. Rumor has it the inside price can be shaded a trifle. One of the local dealers reported working on an inquiry from France for 1000 barrels of Pennsylvania cylinder stocks, but buyers' ideas were about ½ cent a gallon below refiners' and the deal fell through. Neutral oils are moving in a slightly larger way at unchanged prices. Paraffin oils are marking time.

Lubricants—Gulf Ports

Demand for zero cold test oils for export has been lagging. Price fluctuations have been narrow. There was an inquiry from France for a cargo of 30,000 barrels of assorted lubricants for February shipment, but this is hanging fire. Domestic demand is more active but orders have been mainly for a few hundred barrels for immediate delivery. Western 600 steam refined in barrels was quoted at 14 cents a gallon.

Petrolatums

Demand is routine. French and United Kingdom manufacturers of facial creams are inquiring in an active way but are buying sparingly. Snow white is still held at 11 cents a pound. Lily white is quiet but steady at 8½ cents a pound.

Independent May Buy North Baltimore

Staff Special

TULSA, Jan. 30.—Independent Oil & Gas Co. is negotiating for the purchase of properties of the North Baltimore Oil & Gas Association of Okmulgee, owned by J. J. Moroney and associates. The company is capitalizing for $300,000 and it is understood that the purchase price for the properties will be around $1,000,000.

North Baltimore opened a Wilcox sand pool with the Anglo-Tex Oil Co. in 13-12-11 last fall and this morning got a well a mile east of its former discovery which came in at about 250 barrels per day with the sand just touched. The company owns considerable other acreage in the vicinity. The Wilcox pool in 12-11 is now making 900 barrels of high gravity oil from two wells as well as a small production from shallow wells.

To Build Lube Plant, Install Storage

CINCINNATI, O.—Eureka Oil Co. is entering its third year in the oil jobbing business and reports enjoying a steady growth.

The company is now planning to erect a modern lubricating and compounding plant, and will also install additional storage tanks. These additions are being made to meet the increasing demand for White Dove gasoline, motor oils and greases, according to E. B. Weber, vice president and general manager.

New York Export Market

Prices below are an index to the export markets as of the dates given. In many cases they are actual sales prices. So many factors enter into the price in export transactions that an actual market price governing the bulk of transactions cannot be given.

GASOLINE	Feb. 1	Jan. 25
U. S. Motor, Tank cars Ref.	11¼	-11¼
U. S. Motor cases,	27.15	-27.15
KEROSENE		
41-43-150 W. W. Tank cars Ref.	08¼	-08¼
41-43-150 W. W. Cases	19.40	-19.40
42-44-110 S. W. Cases	17.90	-17.90
GAS OIL		
36-40, Bulk Refinery	05¾-06¾	05¾-06¾
28-34, Bulk Ref.	05¼-06¾	05¼-06¾
MEXICAN BUNKER OIL		
Grade C, f. o. b- ref. Bulk	1.75	-1.75
Diesel Oil f. o. b. ref. Bulk	2.20	-2.20

LUBRICATING OILS

The following prices are cooperage basis f. o. b. New York, products being manufactured by inland refineries.

CYLINDER OILS (bbls.)

1 inch Immersion Test; All Penna. Products

Filtered D 600	32	-32
Filtered E 600	30	-30
Unfiltered 600 s. r.	25	-26
Unfiltered 650 s. r.	30	-31
600 flash s. r.	32	-34
630 Flash	42	-42

RED PARAFFIN (bbls.)

(Viscosity at 70)

300 vis.	No. 5 color 21½	-21½
250 vis.	No. 5 color 20½	-20½
High Viscosity	No. 5 color 26	-26

Neutral Oils (bbls.)

(Viscosity at 70)

200 vis. at F. Pale	No. 3 color -31½	-31½
180 Pale	No. 3 color -29¼	-29¼
150 Pale	No. 3 color -24¾	-24¾

BLACK OIL (bbls.)

25-30 cold test	14	-15	14	-15
15 cold test	15	-15½	15	-15½

MEDICINAL OILS

(Includes Price of Drums)

(Penna. Stocks)

	Feb. 1	Jan. 25
Domestic.875-.885s.g.	1.00-1.05	1.00-1.05
Domestic.865-.870s.g.	.75- .80	.75- .80
Russian.885-.890s.g.325-330 vis.	1.20-1.25	1.20-1.25

WAXES

(Penna. Stocks)

(F. A. S. Carload Lots)

WHITE CRUDE SCALE		
122-124 A. m. p.	-05¼	-05¼
124-126 A. m.p.	-05¼	-05¼
MATCH		
105-108 A. m. p.	-06	-06
FULLY REFINED		
120-122 A. m. p.	06	-06
123-125 A. m. p. Philadelphia	06¼	-06¼
125-127 A. m. p.	06¼	-06¼
128-130 A. m. p.	06¼	-06¼
130-132 A. m. p.	06¼	-06¼
133-135 A. m. p.	06¼	-06¼
135-137 A. m. p.	-07¼	-07¼
SEMI REFINED		
122-124 A. m. p.	-05½	05¼
YELLOW CRUDE SCALE		
124-126 A. m. p.	05¼	-05¼

PETROLATUMS

(Penna. Stocks)

Per Pound

Dark Green	02¾	02¾
Veterinary	03¼	03¼
Light Amber	03¼	03¼
Dark Amber	03¾	03¾
Cream	06¾	06¾
Lily White	08½	08½
Snow White	11	11

Gulf Export Market

Gasoline

F. O. B. Seaboard

Shipments of 20,000 Bbls. and over

	Feb. 1	Jan. 25
U. S. Motor, Cargo	-.11	11-.11¼
60-62 400 e. p. Bulk	.13¼	.13¼
64-66, 385 e. p. Bulk	.14¼	-.14¼
U. S. Motor, Cases (cargo lots)	2.30	2.30
64-66, Cases (cargo lots)	2.60	2.60
KEROSENE		
Water White, 41-43 bulk	08 -08¼	-08
Prime White, 42-44 bulk	06¾-07	-07
Water White, cases (cargo lots)	1.70	-1.70
Prime White, cases (cargo lots)	1.60	-1.60
DOMESTIC GAS AND BUNKER OIL		
26-28, gravity, bulk*	04¾	-04¾
32 plus, bulk, Dark	04½	-04½
Grade C, Bunker oil	1.60	-1.60
Cargoes	nominal	1.50

*Transparent through neck of a 4 oz. bottle.

MEXICAN CRUDE AND BUNKER OILS

F. O. B. Steamer Tampico

Heavy, Taxes to be added	1.15	-1.15
Grade C, Bunker oil Taxes paid	1.45	1.45
Grade C, Bunker oil F. A. S. New Orleans	1.60	1.60

Lubricating Oils

SOUTH TEXAS

(Viscosity at 100°F; cold test 0)

(Tanker, F. O. B. Houston)

	Feb. 1	Jan. 25
100 Vis. No. 2 Unfiltered Pale	07	07
150 Vis. No. 2½ Unfiltered Pale	09	09
200 Vis. No. 3 Unfiltered Pale	11	11
300 Vis. No. 3 Unfiltered Pale	12	12
500 Vis. No. 3½ Unfiltered Pale	13	14
200 Vis. No. 5½ Red Oil	10½	10½
300 Vis. No. 5½ Red Oil	12	11½
500 Vis. No. 6 Red Oil	14	13
800 Vis. No. 6 Red Oil	18½	18

Pacific Export Market

Cargo lots quotations at seaboard, Los Angeles)

	Feb. 1	Jan. 25
Gasoline, U. S. Motor—54°—56°	8 -10	8 -10
Gasoline—U. S. Motor blends and special cuts	9 -10½	9 -10½
Gas Oil, 24°—30°B. per bbl.	$1.15	$1.15
Diesel Oil, 27°B—plus per bbl.	$1.15	$1.15
Bunker Oil, 14°—18°B. per bbl.	$1.00	$1.00
Fuel Oil, 14°—18°B. per bbl.	$1.00	$1.00
Kerosene, W. W. 40°—42° B per gal., 125-150 flash test	05 -05½	05 -05½
Cased Goods		
Gasoline, U. S. Motor	$2.35	$2.35
Kerosene, W. W. 40°—42° B per case, flash test 125-150	$1.40-1.50	$1.40-1.50

N. Y. Domestic Market

The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being products made from Domestic (including California) and Mexican Crudes.

	Feb. 1	Jan. 25
U. S. Motor Gasoline, Tank Cars Delivered greater N.Y.	-12½	-12½
U. S. Motor Gasoline, Tank Cars Bayonne	-11½	11¼-11½
Kerosene, 41-43 150 W. W. Tank Cars Del'd greater N.Y.	-09¼	-.09¼
Grade C Bunker f.o.b. N.Y. Ref.	1.75	1.75
Diesel Oil f.o.b. Refinery	2.20	2.20
Gas Oil, 36-40, Bulk Refinery	-05½	-05½
Gas Oil, 28-34 Bulk, Refinery	-05¼	-05¼

Rumors of Crude Advance Fail to Boost Prices

Staff Special

CHICAGO, Jan. 30.—Predictions of an advance in the price of Mid-Continent crude oil had no effect on the resale market of oil products in Chicago this week. Other influences caused slight fluctuations in the prevailing prices of some commodities, but there was no bull movement in anticipation of the crude advance, which the bulls take for granted and the bears admit to be probable.

It has been another uneventful week in mid-winter with a wave of sub-zero weather in the middle of it. The cold continued to encourage the consumption of light domestic fuels as well as heavy grades but it did not stimulate prices. Distillates are actually lower in price than a week ago. Gas oil and refinery fuels remain unchanged.

If the weather man is right about what next week will bring, the climatic element is not going to help the price of any oil product. In the forecast issued Saturday in Chicago for Standard Oil Co. of Indiana territory, he expresses the belief that there will be a little mild dry weather in the south during the early part of next week. Otherwise the temperatures will be normal or below and rains or snows occasionally throughout the territory.

U. S. Motor gasoline is quoted in Chicago at 9¾ cents. There is little or no shading of that general quotation but buying is light and practically no spot business is done at a higher price. Export goods are slightly stronger with 64-66, 375 end point gasoline firmer at 12½ cents than it was a week ago.

Kerosene is higher than a week ago. Scarcity appears to be the reason for the advance. Export buying has about ceased; at least it is not a big factor, and domestic demand is not especially strong. Goods of 42-44 gravity are up a full ½ cent to 6½ cents a gallon and scarce, and 41-43 up about ⅛ cent and none too abundant. The call for kerosene is only about normal for the season.

Distillate of 38-40 gravity is enjoying a fair demand but is sightly off in price at 4 to 4¼ cents a gallon. A fairly good demand is reported on gas oil at 3¾ to 3⅞ cents which is about last week's price level. The dark gas oil can be shaded down to 3⅝ cents in most offices.

Refinery 24-26 fuel oil is quoted at $1.22½ to $1.25 and 18-22 Oklahoma refinery fuel is $1.17½ to $1.22½. Ruling quotations today are the same as a week ago and there has been no appreciable fluctuation in the meantime. The only heavy product to stiffen has been Smackover crude fuel. The conservation order of one week ago has begun to be felt in the Chicago market and the spot figure is $1.05 to $1.07½ per barrel with $1.10 quoted firm over February.

Crude Oil Prices All Fields

ALL PRICES EFFECTIVE, *February 1*

EASTERN FIELDS
Posted by Joseph Seep Purchasing Agency

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$3.65	Gaines, Tioga Co. (Pa.)	$2.95
Bradford District Oil in National Transit Lines (Bradford District)	3.65	Cabell Grade in Eureka Pipe Lines (West Virginia)	2.10
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	3.55	Corning Grade in Buckeye Pipe Lines (Ohio)	1.95
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.55	*Somerset Medium in Cumberland Pipe Lines (Kentucky)	2.20
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.50	*Somerset Light in Cumberland Pipe Lines (Kentucky)	2.35
Penna. Grade Oil in Buckeye Pipe Lines (Ohio)	3.30	Ragland Grade in Cumberland Pipe Lines (Kentucky)	1.15

*Somerset oil run prior to Oct. 1, 1923, takes price of 6 cents lower than above quotations.

CENTRAL STATES FIELDS
Posted by Ohio Oil Co.

Wooster	$2.00	Indiana	$1.78	Plymouth	$1.40
Lima	1.98	Princeton	1.87	*Canadian Petrolia	2.38
		Illinois	1.87	*Posted by Imperial Oil, Ltd.	

OKLAHOMA, KANSAS And NORTH TEXAS FIELDS
(Prices of Prairie Oil & Gas Co.)
(Prairie's prices apply in Oklahoma, Kansas, North and Central Texas.)

*28-28.9	$1.40	41-41.9	$2.44
29-29.9	1.48	42-42.9	2.52
30-30.9	1.56	43-43.9	2.60
31-31.9	1.64	44-44.9	2.68
32-32.9	1.72	45-45.9	2.76
33-33.9	1.80	46-46.9	2.84
34-34.9	1.88	47-47.9	2.92
35-35.9	1.96	48-48.9	3.00
36-36.9	2.04	49-49.9	3.08
37-37.9	2.12	50-50.9	3.16
38-38.9	2.20	51-51.9	3.24
39-39.9	2.28	52 and above	3.32
40-40.9	2.36		

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie and Moran crudes all in Texas.)

Effective Feb. 1, Humble posted same gravity and price schedule as that posted by Prairie, excepting that if posted 44 and above at $2.68.

Magnolia Petroleum Co. Prices
In Oklahoma, Kansas and North Texas

Effective Nov. 23, Magnolia posted same gravity and price schedule as Humble, in all fields where it purchases on a gravity basis.

Effective Nov. 23, Corsicana heavy was advanced to $1.05.

NORTH LOUISIANA—ARKANSAS FIELDS
***Prices of the Standard Oil Co. of Louisiana**

Caddo, below 32	$1.65	Haynesville, below 33	$1.55	Smackover, 24-24.9	$1.15
do 32-34.9	1.75	do 33 and above	1.65	do 25-25.9	1.20
do 35-37.9	1.85	El Dorado, below 33	1.55	do 26-26.9	1.25
do 38 and above	1.95	do 33 and above	1.65	do 27 and above	1.30
Homer, below 31	1.40	Bull Bayou, 32-34.9	1.45	De Soto	1.80
do 31-32.9	1.55	do 35-37.9	1.60	Crichton	1.60
do 33-34.9	1.65	do 38 and above	1.75	Bellevue	1.65
do 35 and above	1.75	Smackover, below 24	.85	Cotton Valley	1.10

*Same prices maintained by The Texas Co. and Gulf Production Co. The Texas Co. buys in Caddo, Bull Bayou, De Soto, Crichton and Smackover fields.

STEPHENS, ARKANSAS
Posted by Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

26 and above	$1.40	Below 26	$1.20

SMACKOVER, ARKANSAS
Prices of Louisiana Oil Refining Corp.

Below 24	$0.85	25-25.9	$1.25	27 and above	$1.35
24-24.9	1.15	26-26.9	1.30		

SMACKOVER, ARKANSAS
Prices of Atlantic Oil Producing Co. and Shreveport-Eldorado Pipe Line Co.

Below 24	$0.90	25-25.9	$1.25	27 and above	$1.35
24-24.9	1.15	26-26.9	1.30	Urania, La.	1.50

GULF COASTAL FIELDS
(Posted by Humble Oil & Refining Co., The Texas Co., Gulf Production Co., Sun Oil Co. and Sinclair Crude Oil Purchasing Co.)

Grades A	$1.50	Grades B	$1.25

Goose Creek, Hull, Orange and Pierce Junction are the only Gulf Coastal fields that have A and B grade classifications. All other fields are classified as A grades only.

ROCKY MOUNTAIN FIELDS
Prices of Ohio Oil Co. and Midwest Refining Co.

†Salt Creek 29-29.9	$1.23	36-36.9	$1.79	Rock Creek	$1.75
30-30.9	1.31	37 and above	1.87	†Osage	1.90
31-31.9	1.39	Elk Basin	1.90	†Cat Creek, Mont.	1.90
32-32.9	1.47	Grass Creek light	1.90	Sunburst, Mont.	1.15
33-33.9	1.55	Big Muddy	1.75	†Hogback, N. Mex.	1.95
34-34.9	1.63	Lance Creek	1.90	Artesia, N. Mex.	1.45
35-35.9	1.71				

†Posted by Midwest Refining Co. Midwest also buys Grass Creek light, and Elk Basin. The Texas Co. buys Salt Creek crude.

CALIFORNIA
Prices of Standard Oil Co of California

Standard Oil Co. of California on Sept. 22 reduced California crude from 10 to 35 cents per barrel and posted 19 new price classifications in the various fields. Instead of paying the same price for the same gravity of oil in all fields regardless of the value of the oil, as it previously has done, the Standard put into effect a new schedule which provides a different schedule of prices for each field and takes into account the varying values of oils of the same gravity in the different fields.

On Oct. 27, it further reduced heavy oils in amounts ranging up to 15 cents. New base price for heavy oils in the San Joaquin Valley is 75 cents, in Southern California fields, 85 cents, and in the Rosecrans-Domingues, Santa Maria and Ventura county fields, it is $1 per barrel for 14 to 14.9 gravity. Light oils remain unchanged.

The new complete schedule of prices in California can be obtained from the editorial department of National Petroleum News on application.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	Feb. 1	Jan. 25
Soda Ash light 58% bags cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg. drums.....cwt.	- 1.70	- 1.70
Sal Soda wks.....cwt.	1.10- 1.25	1.10- 1.25
Caustic Soda 70% solid..cwt.	- 3.10	- 3.10
Chloride of Lime.....cwt. works.....	-2.00	- 2.00
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point.....per ton	-10.00	-10.00

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot.....lb.	11.3	11.5
February.....	11.3	11.5
Tanks, spot.....	10.5	10.7
Boiled carloads spot.....lb.	11.4	11.6
*Soya Bean spot, Bbls....lb.	13½	13¾

Animal Oils—		
English Degras.....lb.	.05½	-.05¾
Domestic Degras, bbls., carloads.....lb.	-.04¾	-.04¾
*Horse.....lb.	-.10	-.10
Oleic Acid—		
Dist. Bbls.....lb.	.10¾-.11¼	.11 -.11½
Saponified Bbls.....lb.	.11¼-.11¾	.11¾-.11¾
Castor Oil—		
No. 1 Carlots, Bbls.....	-.14	-.14
No. 3 Carlots, Bbls.....	-.13½	-.13¾
Lard Oils—		
Prime		
Winter Strained. to 1½ffa.40‡45c.t.lb.	.18¼	.18¼
Extra		
Winter Strained. 2 to 4½ffa.40/45c.t.lb.	.15	.14¾
Extra..... 4 to 5 ffa.40/45c.t.lb.	.14½	.14¾
Extra No. 1 7 to 10 ffa.40/50c.t.lb.	.13¾	.13¾
No. 1.....15 to 18 ffa.40/45c.t.lb.	.13¼	.13
No. 2.....22 to 25 ffa.40/45c.t.lb.	.13	.12¾
Prime Edible Tallow under 1½ffa. 40/45c.t.N.Y.....lb.	-.11¼	-.11¼
Tallow acidless.....lb.	-.13	-.13
Lard Stearine.....lb.	.18 -.18½	.18-.18½
Oleo Stearine.....lb.	-.12¾	-.13
Neatsfoot Oil—		
Pure.....bbls.-lb.	.16¾	.16¾
Extra.....do lb.	.13¾	.13¾

No. 1.....bbls.-lb.	.13¼	.13
Cold pressed.....lb.	.19¼	.19½
Fish Oils—		
Menhaden Oil		
Light pressed.....gal.	-.70	-.70
White.....gal.	-.73	-.73
Yellow bleached.....gal.	-.75	-.75
*Herring tank cars coast.....gal.	-.50	-.50
Whale, extra winter bleached.....gal.	-.82	-.82
Seal.....gal.		Nominal
Naval Stores—		
Turpentine, N. Y.....gal.	1.00	1.02½
Turpentine†.....gal.	.93	.96½
Rosin, B. N. Y.....Bbl.	14.00	14.50
Rosin, F. N. Y.....Bbl.	14.80	15.20
Rosin, B†.....Bbl.	12.00	13.00
Rosin, F†.....Bbl.	13.30	13.90
Rosin Oil 1st run.....gal.	.75	.78½
Rosin Oil 2nd run.....gal.	.80	.83½
Pine Tar—		
Kiln Burnt.....Bbl.	15.50	15.50
Retort.....Bbl.	15.50	15.50

†Savannah, Ga. market.
*Nominal.

Alcohol—Denatured		
Formula 5		
Bbls.....gal.	-45	45
Drums.....gal.	.38	38

Caustic Soda, Sulfuric Acid are Quiet

By Special Correspondent

NEW YORK, Feb. 1.—Following is a review of the markets for oils and supplies used in compounding and refining:

Alcohol still weakening. No further announcements of price reductions but considerable shading is going on. Buyers feel it is a good time to let this market alone. Distillers offering liberally for spot and forward deliveries.

Animal Oils unsettled. Some grades of neatsfoot slightly higher, others trifle lower. Demand spasmodic. More interest in prime and extra winter strained lard oil. Domestic degras dull. Acidless tallow oil steady but dull. Oleo stearine demand small, market weak.

Fish Oils marking time. Buyers operating hand-to-mouth. Crude menhaden oil offerings still small. Light pressed in routine demand at 70 cents a gallon. Domestic cod oil dull. Whale oil marking time.

Linseed Oil still weak. Heavy Argentine crop responsible. Spot oil offered freely with few takers. More interest in boiled oil. Paint and linoleum makers buying very sparingly. Soya bean oil trifle easier.

Caustic Soda demand lagging. Business mainly hand-to-mouth. More interest in futures. Contract deliveries fair.

Soda **Ash** business not up to expectations. Demand for futures trifle better. Export buyers holding off.

Sal **Soda** demand gradually improving, but business not up to expectations. Prices weak in sympathy with other heavy chemicals.

Bleaching Powder demand shade more active but demand chiefly for current needs. Prices steady and unchanged.

Sulfuric Acid quiet. Offerings slightly larger. Buyers operating cautiously. No price changes.

Naval Stores price fluctuations more numerous but general tendency seems to be upwards. Receipts of turpentine falling off, and local marketers offering more sparingly. Rosins also expected to stiffen considerably. Rosin oils quiet. Tar and pitch sluggish.

Motor Benzol Stronger

NEW YORK, Feb. 1.—Although pure and 90 per cent benzol showed an easier tendency, leading marketers reported a stronger tone in motor benzol and as the week closed were asking 24 cents a gallon in tank cars with a little available here and there at 23 cents. Production is large but the upward tendency in gasoline tank wagon prices has tended to improve sentiment.

There is a heavy contract movement which is preventing stocks from piling up and marketers do not expect any price changes in the immediate future. Export demand is more spirited but comparatively little is being moved into export channels.

SHREVEPORT, Jan. 29.—Phillips Petroleum Co. has recently opened a land office in this city, and will handle from here all its acreage purchases in Arkansas and Louisiana. L. K. Eastman, who formerly was located in El Dorado, Ark., is in charge of the Shreveport office. Headquarters of the production department remain in El Dorado.

Indiahoma Refinery Sold to Independent Oil

Staff Special

TULSA, Feb. 1.—Independent Oil & Gas Co. has purchased the refinery of the Indiahoma Refining Co. at Okmulgee together with 270 miles of gathering lines and a tank farm with 1,000,000 barrels of steel storage room. The property was purchased from bondholders of the defunct company.

The Indiahoma plant and tank farm occupy a 200-acre site adjoining the Independent refinery which was recently purchased from the Allied Refining Co. The Indiahoma crude gathering lines have been used under lease by Independent for several months. They connect with most of the Independent properties in the Okmulgee, Bristow, and Cushing districts.

No attempt will be made by Independent to operate the refinery as such. The plant was rated as a 10,000-barrel skimming plant when it was shut down three years ago but is not modern in many respects now. Much of the material can be used by the Independent in its present building campaign which includes the construction of a cracking unit and a lube plant. The loading racks and trackage will be of particular benefit to the purchasers.

Receivership Again Sought

TULSA, Jan. 30.—A second application for receivership for the Gladys Belle Oil Co. was filed in district court here this week. A former receivership set up by the court was dissolved by Federal Judge Kennamer. The present application is filed by Bruce L. Keenan and J. E. Hart, stockholders.

OIL STOCKS AND FINANCES

National Petroleum News

Cities Service Refunds Part of Bonded Debt

CLEVELAND, Jan. 30.—Cities Service Co. has just offered $10,000,000 of refunding 6 per cent gold debenture bonds dated May 1, 1925, and due Jan. 1, 1966, at 93¼ and interest, to yield more than 6.45 per cent. The offering which was oversubscribed, was underwritten by a syndicate consisting of A. B. Leach & Co., Federal Securities Corp., H. M. Byllesby & Co., Pearson-Taft Co., and Henry L. Doherty & Co. Proceeds from the sale are to be applied to the retiral during 1926 of $10,000,000 convertible debentures which were outstanding Jan. 1, 1926.

In the agreement of last May 1 under which these bonds are issued, there is an indenture calling for a sinking fund of $250,000 annually beginning May 1, 1926, for the redemption of this issue. The company now announces a further agreement for an additional sinking fund of $250,000 annually. This means complete retirement in 20 years.

The funded debt of Cities Service Co., according to Henry L. Doherty in a letter to the bankers, is followed by preferred and common stock of a par value of $168,102,714 having a market value of about $200,000,000. The company has about 60 public service subsidiaries and 40 oil subsidiaries. The subsidiaries' production amounts to 25,000 barrels per day, he says.

Barnsdall Reorganizing

TULSA, Jan. 30.—Reorganization of the Waite Phillips Co. as a subsidiary of the Barnsdall Corp. has been in progress during the last week since President E. B. Reeser returned to Tulsa. Executives of the Barnsdall Corp. are taking over similar departments in the new subsidiary for management.

O. L. Cordell, formerly vice-president in charge of refining and marketing for Waite Phillips, has opened an office in the Security bldg., for the present, sharing space with Johnston D. Hill, formerly vice-president in charge of production. R. B. Pringle, Gillete Hill and others are associated with Waite Phillips since the sale of the company.

O. P. Jacobsen who was with Waite Phillips Co., has been made general superintendent of the southern district while his brother Charles Jacobsen, who was formerly with Barnsdall, will be superintendent of the northern division.

The official family of the Barnsdall Corp. in charge of Waite Phillips Co. as well will be as follows: E. B. Reeser, president; M. G. Eitelman, vice-president in charge of distribution; George D. Locke, vice-president in charge of tank car sales; H. L. Hughes, sales manager; H. M. Edinger, office manager; R. F. MacArthur vice-president in charge of production; J. A. Fryer in charge of land and leases; A. J. Schlosser, general superintendent of the gasoline department; C. E. Good purchaser; John H. Brennan, general counsel; and L. D. Messner, secretary. Room is being made for as many of the old Waite Phillips Co. employees as possible.

S. O. Indiana Plans Stock Buying Plan Extension

CLEVELAND, Feb. 1.—Standard Oil Co. of Indiana stockholders will vote on a renewal, with a few alterations, of the employees' stock purchasing plan when they hold their annual meeting March 4 at Whiting, Ind. The first purchase plan of the company, put into effect in 1923, expires March 31, and it is the intention of the company's directors to grant stock purchase privilege during the ensuing three years.

The chief change in the second plan is that participants in the first plan must show ownership of at least two thirds of the stock purchase in the first plan, or its equivalent, before being allowed to enter the second plan. This restriction may be removed in individual cases upon presentation of causes satisfactory to the directors of the company.

Employees may deposit up to 10 per cent of their income from the company with the purchase plan trustees and to their deposits the company will add 50 per cent. The trustees are authorized to purchase stock from the company from time to time, the price to be fixed each March 31 and to be the average market price during the preceding six months but at no time shall the price be below par. This price shall be in force during the 12 months following each price fixing date.

Oil Dividends

	Amt.	Payable	Stock of Record
Big Lake	17½%	Feb. 18	Feb. 15
Buckeye P. L. q	$1	Mar. 15	Feb. 19
do extra	50c	Mar. 15	Feb. 19
Independent O. & G. q	25c	Apr. 12	Mar. 31
Mid-Cont. Pet. pfd. q	$1.75	Mar. 1	Feb. 15
Pure Oil q	50c	Mar. 1	Feb. 10
S. O. Calif. q	50c	Mar. 15	Feb. 20
Union Tank Car q	$1.25	Mar. 1	Feb. 10
do pfd. q	$1.75	Mar. 1	Feb. 10
North Central Texas q	10c	Mar. 1	Feb. 10

Pure Oil Declares Extra Dividend of 12½ Cents

CLEVELAND, Feb. 1.—Pure Oil Co. has declared an extra dividend of 12½ cents a share payable March 1 to stock of record Feb. 10. The directors have declared the regular dividend of 37½ cents payable at the same time. President Henry M. Dawes after the directors' meeting made this statement:

"Since the last annual report on March 31, 1925, the Pure Oil Co. has reduced its liabilities $14,800,000 by the following payments: Purchase money notes, $9,000,000; bills payable, $4,900,000; sinking fund notes, $300,000; steamship notes, $350,000; equipment trust certificates, $250,000.

"The funded debt of the company on Feb. 1 next will be $10,730,000, carrying 6½% and requiring a sinking fund of $600,000 annually.

"In view of the company's satisfactory earnings during the last nine months, its sound financial position, large reduction in debt and favorable outlook, the directors have been warranted in declaring for payment on the common stock of 12½c a share, in addition to the regular quarterly dividend of 37½ cents."

Independent Oil & Gas Income Multiplies

NEW YORK, Jan. 30.—Independent Oil & Gas Co.'s report on 1925 operations shows net income after all charges including federal income taxes, equivalent to $5.22 a share on the 500,000 no par shares outstanding at the end of the year. In 1924 net earnings were at the rate of $1.20 a share.

In the fourth quarter of 1925 net earnings were equal to 67 cents a share as compared with 45 cents a share in the last quarter of 1924.

Income accounts for 1925 and 1924 compare:

	1925	1924
Gross	$6,251,790	$2,826,934
Exp., tax, dry holes, etc.	2,295,020	1,121,537
Interest and discounts	24,170	4,183
Deprec. and deple. res.	1,247,155	1,155,497
Fed. tax res.	75,000	.....
Net income	$2,610,445	$ 539,717

Income accounts for the two fourth quarters compare:

	1925	1924
Gross	$1,511,756	$648,163
Exp., tax, dry holes, etc.	777,291	224,446
Interest and discounts	5,535	5,431
Depr. and depl. reserve	366,899	217,468
Fed. tax res.	25,000	.....
Net income	$ 337,031	$200,818

Transactions In Oil Shares on New York Stock Exchange

1925 High	1925 Low	1926 High	1926 Low		Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Jan. 30 Sales	First	High	Low	Last	Ch'ge
48	25	76	48	(sh)	200,000	N.P.	American Republics	.....	.....	1,400	70	72	70	71¾	+1¾
34⅝	27½	53⅜	32	$	56,000,000	$25	Associated Oil	50cQ	Jan. 25, 26	41,000	53¼	53⅜	51¼	52½	— ½
140⅛	78½	117½	95½		50,000,000	100	Atlantic Refining	.....	June 16, 24	5,700	106	110	105¼	110	+5
118	108	117¾	113½		20,000,000	100	do pfd	$1¾Q	Feb. 1, 25	100	117	117	117	117	0
23⅛	14	32⅝	18¾		18,428,350	25	Barnsdall Corp. A	50cQ	Jan. 2, 26	18,100	30⅜	31	x29⅝	30⅝	+ ⅛
17½	10	28⅜	16		3,713,275	25	do B	50cQ	Jan. 2, 26	1,000	26¾	26⅞	x26¼	x26¾	+ ⅜
4¼	1	2¾	¼	(sh)	150,000	N.P.	Caddo Central O. & R	.....	.....	300	½	½	½	½	0
29¼	19½	33⅝	23⅞	$	30,549,925	$25	California Petroleum	50cQ	Dec. 1, 25	48,200	32¼	33¼	32	32⅞	+1
63⅜	31⅜	68¾	42½		19,832,300	100	General Asphalt Co	.....	.....	17,300	66¾	68¾	67½	67½	+1⅜
100	71½	107½	86½		7,416,000	100	do pfd	$1½Q	Dec. 1, 25	1,400	105½	107½	105½	107½	+2
45	38⅜	59	42		29,194,650	25	General Petroleum	75cQ	Dec. 15, 25	56,600	58½	58¾	56¾	58¼	+ ½
82½	61	85	59		25,000,000	100	Houston Oil Co	.....	.....	1,900	68	69	66½	68	+1
16¾	5¾	40½	13½	(sh)	500,000	N.P.	Independent Oil & Gas Co	25cQ	Jan. 11, 26	28,500	29½	31½	29½	30⅜	+1¼
7⅜	3¾	14½	5½	$	3,256,590	$10	Indian Refining Co	.....	Dec. 15, 20	5,300	11½	11⅝	10¾	11	— ¼
75	60	110	77		2,296,400	100	do pfd	.....	Dec. 15, 21	.....	.....	.....	.....	.....	.....
1	¾	1½	¾		1,678,760	10	Kansas & Gulf Corp	.....	.....	300	½	½	½	½	0
.....	.....	23¾	13⅜	(sh)	1,078,166	N.P.	Louisiana Oil Refining	.....	.....	9,600	17¾	18⅜	16⅝	18¼	+1⅜
37½	24⅝	35½	20⅜	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	5,300	25	27	24⅛	26½	+1½
42	29	60	32⅝	(sh)	1,885,343	N.P.	Marland Oil Co	$1Q	Dec. 31, 25	162,100	57⅜	60¼	56⅞	59½	+2¼
190	190	250	225	$	45,942,800	$100	Mexican Petroleum Co	$3Q	Jan. 20, 26	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....		12,000,000	$100	do pfd	$2Q	Jan. 20, 26	.....	.....	.....	.....	.....	.....
25¾	14⅜	22¾	9	(sh)	945,989	N.P.	Mexican Seaboard Oil	.....	Nov. 15, 24	9,100	10	10½	9½	10¼	+ ¼
40¾	22⅝	38	26	(sh)	1,357,800	N.P.	Mid-Continent Petroleum (Cosden)	.....	Aug. 1, 23	28,500	34¼	36	34	35¾	+1½
95	80	94¾	83	$	6,718,000	$100	do pfd	$1¾Q	Dec. 1, 25	300	94¾	94¾	94⅜	94⅛	— ⅞
6⅞	1	3½	⅝	$	26,013,700	10	Middle States Oil Corp	.....	July 1, 23	1,600	1¾	1⅞	1	1⅜	0
58¼	45	77½	51⅝	(sh)	3,500,000	N.P.	Pacific Oil Co	$1.50S.A.	Jan. 20, 26	62,600	77¼	77½	76	78	+ ⅞
65	44¼	83⅞	59½	$	48,307,400	$50	Pan American P. & T	$1.50Q	Jan. 20, 26	1,600	67½	70	67½	70	+3
64⅝	41¼	84½	60¾		90,476,200	50	do Class B	$1.50Q	Jan. 20, 26	28,900	69⅜	72¼	68½	71½	+2⅜
.....	.....	47½	41¾	(sh)	400,000	N.P.	Pan American Western B	50cQ	Jan. 30, 26	4,100	41¾	43	41½	42⅜	+1¼
4⅜	1⅜	6¼	2¼	(sh)	198,770	N.P.	Panhandle P. & R	.....	.....	900	4¾	5	4¾	4⅞	+ ⅛
42½	29	60½	37	$	2,935,200	$100	do pfd	.....	July 2, 23	.....	.....	.....	.....	.....	.....
42½	28½	47¾	36¼	(sh)	1,925,152	N.P.	Phillips Petroleum	75cQ	Jan. 2, 26	25,600	44¼	45⅝	44	45½	+1½
4½	1½	3⅝	1¼	$	29,622,925	$25	Pierce Oil Corp	.....	.....	5,500	1½	1⅝	1½	1⅝	+ ⅛
36	20	40	20¼		15,000,000	100	do pfd	.....	Feb. 1, 22	1,200	24	27⅛	24	27⅛	+3⅛
5¾	4⅜	8¼	4½	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	25,900	6	6⅞	5⅞	6½	+ ¼
43½	22¾	32⅝	12⅞	$	11,467,850	50	Producers & Refiners	.....	Sept. 15, 23	1,400	15¾	16½	15	16½	+2
47½	42	47⅝	27		2,845,350	50	do pfd	.....	May 1, 25	200	32¾	33	32¾	33	+ ¾
30¼	20	33¾	25⅝		75,959,250	25	Pure Oil Co	87½cQ	Dec. 1, 25	65,100	29⅞	31	29¾	30¾	+1¼
105¼	92	108¾	103		13,000,000	100	do 8% pfd	$2Q	Oct. 1, 25	100	108¾	108¾	108¾	108¾	+ ¾
59½	40⅜	57⅜	48¼	(sh)	820,436	13.40	Royal Dutch, N. Y. shares	$1.339	Jan. 29, 26	1,600	53⅞	53⅞	52⅝	53⅝	— ⅛
42	33	46¾	39½	(sh)	105,575	£2	Shell Transport & T	96½c	Jan. 22, 26	100	46	46	46	46	+ ⅛
22½	15¾	28¾	21⅝	(sh)	10,000,000	N.P.	Shell Union Oil Corp	35cQ	Dec. 31, 25	22,400	26⅝	27½	26⅜	27¼	+ ⅜
99¼	91½	106½	99½	$	20,000,000	$100	do pfd	81½Q	Nov. 16, 25	700	105⅛	106½	x103½	103½	—1½
24	10⅜	26¾	18⅝		7,207,090	10	Simms Petroleum Co	50cS.A.	Jan. 2, 26	12,400	25⅛	26	24¼	25⅛	+ ⅛
27⅛	15	24⅞	17	(sh)	4,484,450	N.P.	Sinclair Consolidated	.....	May 31, 24	150,100	21¾	24	21¼	23½	+1⅝
90	75	95	78¾	$	18,190,200	$100	do pfd	$2Q	Nov. 16, 25	3,600	92	95	92	95	+3
29	17⅜	32⅞	21¾		20,966,500	25	Skelly Oil Co	50cQ	Dec. 15, 25	39,200	32½	32⅞	31⅝	32⅝	— ⅛
68½	55½	67¼	51½		236,869,225	25	S. O. California	50cQ	Dec. 15, 25	29,200	57⅜	57⅞	56⅜	57⅞	+ ⅝
42¼	33	47½	38⅜		511,631,025	25	S. O. New Jersey	25cQ	Dec. 15, 25	67,300	44	46	43½	45¼	+1⅜
119⅜	115¾	119	116¼		199,972,900	100	do pfd	$1¾Q	Dec. 15, 25	4,500	117⅜	118	117⅜	117¾	+ ¾
.....	.....	43⅞	38⅜	(sh)	1,034,373	N.P.	Sun Oil	25cQ	Dec. 15, 25	1,500	39½	40	38½	39½	+ ½
8⅛	2⅜	6¼	2½	(sh)	1,121,368	N.P.	Superior Oil Corp	.....	Dec. 20, 20	3,700	3⅜	3⅜	3	3¼	+ ⅛
45¾	37¾	53⅝	42¾	$	164,450,000	$25	The Texas Co	75cQ	Dec. 31, 25	23,500	51⅞	53⅝	51½	53¾	+1½
15¼	8	23⅜	10⅞		8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	11,000	17½	18	16⅝	18	+ ¾
.....	.....	39¼	30¼	(sh)	2,017,719	N.P.	Tide Water Oil Co	25cQ	Dec. 31, 25	57,500	39	39¼	37½	38	— ¼
.....	.....	103	99½	$	25,059,000	$100	do 5% pfd	$1.25Q	Nov. 16, 25	8,100	102	103	101⅜	102	+ ½
6¾	3¾	5⅞	3½	(sh)	3,742,029	N.P.	Transcontinental Oil Co	.....	.....	17,100	4	4⅜	4	4⅜	+ ⅜
39	35	43⅜	33	$	40,480,800	$25	Union Oil of California	45cQ	Nov. 10, 25	18,500	39	39⅞	38⅜	39⅞	+1⅜
132⅞	94	134	89		18,262,300	100	Union Tank Car Co	$1¾Q	Dec. 1, 25	1,100	91	91	89	91	0
116¾	106¼	117⅝	113¼		12,000,000	100	do pfd	$1¾Q	Dec. 1, 25	300	115½	115½	115½	115½	+ ½
29⅜	23⅛	31¾	25½	(sh)	490,000	N.P.	White Eagle Oil & Ref	50cQ	Jan. 20, 26	7,200	27	28	27	28	+1⅛

*New High †New Low xEx-dividend Total Sales 1,147,300

Standard Oil Stock Traded In New York Curb Market

1925 High	1925 Low	1926 High	1926 Low		Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Jan. 29 Sales	First	High	Low	Last	Ch'ge
13¾	14⅜	26⅜	17¼	£	3,000,000	£1	Anglo American	32.4cS.A.	Jan. 4, 26	1,800	18¼	18⅜	18	18	— ⅛
4⅞	2	4	1⅜	(sh)	500,000	N.P.	Atlantic Lobos	.....	.....	600	2⅛	2⅛	2	2	— ⅛
16	5	12⅜	3	$	10,000,000	$10	do pfd	.....	.....	100	3¾	3¾	3¾	3¾	— ¼
265	155	240½	205		1,000,000	$100	Borne-Scrymser	‡84S.A.	Oct. 15, 25	60	226	230	226	230	+4
85½	51	72	53½		10,000,000	50	Buckeye Pipe Line	$1Q	Feb. 1, 26	800	56½	59½	56½	56½	+ ¼
52½	47⅜	74⅜	48½		3,000,000	25	Chesebrough Mfg. Co	62½cQ	Dec. 29, 25	100	68	68	68	68	—1
115	112	115	110		1,000,000	100	do pfd	$1¾Q	Dec. 31, 26	.....	.....	.....	.....	.....	.....
.....	.....	31⅜	21⅞		34,914,280	$10	Continental Oil (Maine)	25cQ	Dec. 15, 25	21,700	23¾	24	23¼	23¾	0
20	11¼	17½	10½		1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 23	.....	.....	.....	.....	.....	.....
149	110¾	156	132		3,000,000	100	Cumberland Pipe Line	$3Q	Dec. 15, 25	120	132	134	132	132½	+ ½
105	74	96	60		5,000,000	100	Eureka Pipe Line	$1Q	Feb. 1, 26	100	61¼	61¼	60	60	—1½
69¾	52	65	23¼		16,000,000	100	Galena Signal Oil	.....	June 30, 25	1,100	30	32½	30	31	+2
113	100½	105	88		4,000,000	100	do new pfd	$2Q	Dec. 31, 25	80	90¼	90¼	88½	88½	—3¼
116	110	114	95		2,000,000	100	do old pfd	$2Q	Dec. 31, 25	40	97	97	95	95	—2
48¾	34½	95½	42¼		43,750,000	25	Humble Oil & Ref	30cQ	Jan. 1, 26	20,100	92½	95½	92¼	95½	+3¼
161	120	154½	127		20,000,000	100	Illinois Pipe Line	$6S.A.	Dec. 31, 25	40	140	141	138½	138½	+ ½
.....	.....	39¼	27¼	(sh)	6,491,852	N.P.	Imperial New	25cQ	Dec. 1, 25	9,900	37	37¾	37	37¼	+ ¼
100	66	84	57⅛	$	5,000,000	50	Indiana Pipe Line	$1Q	Nov. 14, 25	500	60	61½	60	61½	+2
24¾	16¾	35⅝	22¼	(sh)	7,118,138	N.P.	International Petroleum	25c	Sept. 30, 25	29,700	33¼	35⅝	33¼	34⅜	+1⅜
162	122	190	130½	$	188,247,100	100	Magnolia Petroleum	1%stk.	Oct. 5, 25	.....	.....	.....	.....	.....	.....
25⅞	20⅝	25½	16½		6,362,500	12½	National Transit	25cS.A.	Dec. 15, 25	1,300	18¾	20	18¾	19⅞	+1⅜
97	54½	79	44½		5,000,000	100	New York Transit	75cQ	Jan. 15, 26	210	46	46⅜	44½	44½	—1½
107½	72	88	67½		4,000,000	100	Northern Pipe Line	$8S.A.	Jan. 1, 26	400	73	73	70⅝	71½	+ ¾
79½	55	75	60¼		60,000,000	25	Ohio Oil Co	50cQ	Dec. 31, 25	7,600	63	67⅜	62½	66⅜	+5⅜
43	27	44½	18		10,000,000	25	Penn. Mex. Fuel	50c	May 21, 25	1,200	19	19½	18	19	+1¾
54¾	49½	65½	45⅞		60,000,000	25	Prairie O. & G	.....	July 31, 25	35,100	57¾	60⅜	57¼	59⅞	+1⅞
111	100	129¾	106		81,000,000	100	Prairie Pipe Line	$2Q	Jan. 30, 26	650	124	125½	124	125¼	+2
230	175	259	200		4,000,000	100	Solar Refining Co	$5S.A.	Dec. 19, 25	.....	.....	.....	.....	.....	.....
100	80½	103	29		10,000,000	100	Southern Pipe Line Co	$1Q	Dec. 1, 25	250	62	62½	62	62½	0
171	117	197	139		20,000,000	100	South Penn Oil Co	$1.50	Dec. 31, 25	970	180	182	174	181	+1
89	68	84	50		3,500,000	100	Southwest Pa. Pipe Lines	$1Q	Dec. 31, 25	200	54½	54½	53½	53½	0
68⅜	54¼	70¾	59½		223,756,258	25	S. O. Indiana	62½cQ	Dec. 15, 25	33,500	66	67⅝	65¾	67⅝	+1⅜
50⅛	32½	46	30⅜		8,000,000	25	S. O. Kansas	.....	June 16, 24	1,400	33	34	33	34	+1
121¼	101	137	114¾		16,864,434	25	S. O. Kentucky	$1Q	Dec. 31, 25	2,200	126½	129	126¼	129	+2
262	198	270	231		3,000,000	100	S. O. Nebraska	$5S.A.	Dec. 19, 25	40	240	240	239½	240	+ ½
48	37¾	48⅝	35½		227,535,300	25	S. O. New York	35cQ	Dec. 15, 25	14,100	35¾	36¾	35½	36¾	+1½
377½	275	369	338		14,000,000	100	S. O. Ohio	$2½Q	Jan. 1, 26	120	340	343	339½	343	+2
336	115	123	116		7,000,000	100	do pfd	$1¾Q	Dec. 1, 25	.....	.....	.....	.....	.....	.....
81	20	27	12½		1,722,931	25	Swan-Finch Oil Corp	.....	Nov. 1, 19	.....	.....	.....	.....	.....	.....
88½	56½	109½	80⅝		61,919,950	25	Vacuum Oil Co	‡50cQ	Dec. 19, 25	6,500	105	108	104½	108	+3¼
30	25	35	30		100,000	10	Washington Oil Co	$2	Dec. 31, 25	.....	.....	.....	.....	.....	.....

Borne Scrymser $2 extra April 15 $4 extra Oct. 15 ‡Vacuum 50c extra Mar. 20, June 20, Sept. 19 Dec. 19 Dec. 19 special $1 Dec. 19 S. O. Neb. $10 extra Dec. 19 Ohio Oil 50c extra Dec. 31. Chesebrough 62½c extra Dec. 29

Something New in Cases

The bottles are held securely at the bottom by a narrow ledge, and at the top by a spring clip around their neck. There is a partition between each bottle which eliminates any chance of breakage and scratched labels.

The case itself has a stiff box frame, covered with smooth black cowhide, French sewed at edges, and lined with red velvet. Contains fourteen 4 oz. cut-bottom bottles with metal capped corks and ten ½ oz. squat grease jars held by adjustable bar. 209 Complete, with your name embossed in gold, only **$13.15**

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Specialists in Standard Oil and Miscellaneous oil securities

25 Broad St. New York

New York Bonds

Week Ending Jan. 29

	High	Low	Last	Ch'ge
Amer. Rep. Cor. deb 6s.	98¾	98¼	98¾	0
Associated Oil gold 6s..	105	102¾	102¾	— ⅜
Atlantic Refg. deb 5s...	100	99¾	100	0
Barnsdall Corp. 8s.....	106	105¼	105⅜	+ ⅜
Barnsdall Corp. 6s....	100⅞	100	100⅛	0
Calif. Petrol sf 6½s...	104½	103½	103½	—1
Empire Gas & F 7½s..	102⅝	102¼	102¼	0
Gen. Asphalt 6s.....	106	105⅝	105⅝	— ⅜
Humble Oil & R 5½s...	102½	101¾	102¼	0
Mid-Cont Pet 6½s....	102¾	101¾	101⅝	— ⅛
Pan-Amer P & T 7s...	106½	106½	106½	0
Pan-Amer P & T 6s...	108½	108½	108½	0
Pierce Oil deb 8s.....	106¾	106½	106½	+ ½
Producers & Refnrs. 8s.	110½	110	110¼	+ ¼
Sinclair Con Oil col 7s..	95¼	94⅝	95	— ¼
Sinclair Con. Oil con 6½s	89⅞	89	89⅝	+ ⅜
Sinclair Con Oil. 6s....	112½	108⅝	111½	+2¼
Sinclair Crude Oil 6s..	101	100⅝	101	+ ¼
Sinclair Pipe Line sf 5s.	90½	89	90½	+1½
Skelly Oil 6½s.....	131	127	130½	+ ½
Union Oil of Calif 6s-A.	104½	104½	104½	— ⅛
Union Oil of Calif 5s-C.	97	96¼	97	+ ⅜

New York Curb Bonds

Week Ending Jan. 29

	High	Low	Last	Ch'ge
Atl. Gulf & w. i. 5s....	73⅞	73	73¼	— ⅝
Cities Service 6s.....	93⅜	92¼	93¼	+ ½
Cities Service 6s w. i..	93¼	93¼	93¼	0
Cities Service 7s B....	180	178	180	+2
Cities Service 7s C....	127	126	127	+1
Cities Service 7s D....	102	101½	102	+ ¼
Cities Service 8s E....	109	109	109	0
Galena S. O. 7s.....	103¼	102¼	103	+1
General Petrol 6s.....	101⅞	101½	101¾	— ¼
General Petrol 5s.....	94½	93⅝	94½	+ ½
Gulf Oil 5s.....	99¾	99¼	99¾	0
Gulf Oil 5½s '27.....	101	101	101	0
Gulf Oil 5½s '28.....	101¼	100¾	100¾	0
Pan-Am. Pet. 5s '40...	102⅛	101	101½	— ⅛
Phillips Pet 7½s w w..	104	104	104	— ¼
Pure Oil 6½s.....	103	102¾	103	0
S O N Y 6½s.....	106¾	106¼	106¾	0
Sun Oil 5½s.....	99½	98¾	99½	+ ½
Tidal Osage 7s.....	104¼	104	104	— ¾
Trans Cont Oil 7s.....	95¾	94⅜	95	+1
United Oil Prod 8s....	35	33⅜	35	+1⅞
Vacuum Oil 7s.....	104½	104¼	104½	0
Valvoline 7s.....	103½	103½	103½	0

New York Curb Market

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions week ended Jan. 29 Sales	First	High	Low	Last	Ch'ge
.....	.....	14½	2¼	....	Amer. Maracaibo..	53,700	11½	*14½	11¾	14½	+3
7	4	8¾	5	$10	Arkansas Nat. Gas.	1,100	6⅜	6⅜	6⅜	6⅜	— ¼
36⅝	32	45¾	38	25	British-American...	.....	.....	.....	.....	.....	.....
6¾	2¾	20¾	2¾	25c	Carib. Syndicate...	170,800	14½	* 20¼	14½	19¼	+4¾
.....	.....	43	35	$20	Cities Service.....	22,200	37¾	38⅞	37⅝	38⅞	+1
82⅝	67¾	85⅝	80¼	100	do pfd.....	800	83⅞	84	83¾	84	+ ¼
7¾	6⅛	8	7¼	10	do pfd. B.....	900	7½	7½	7½	7½	0
19	13¼	21¾	17½	10	do bankers' sh...	100	19⅜	19⅜	19⅜	19⅜	+ ⅜
1⅛	.25	3¼	.60	N.P.	Colombia Syndicate	98,400	2¾	*3¼	2¾	3⅛	+ ⅜
10⅝	2¼	15	8¼	N.P.	Creole Syndicate...	15,900	14¼	*15	13¾	15	+ ½
.....	.....	12¼	5	N.P.	Crown Central.....	2,700	6⅝	6⅝	5½	5¾	— ¼
8	1½	7	2	N.P.	Derby Oil & Ref...	.....	.....	.....	.....	.....	.....
34¼	17½	27	13½	N.P.	do pfd.....	200	14¾	14¾	†13½	13½	—1⅜
.....	.....	6	1¾	N.P.	Gibson Oil.....	18,500	5	5½	5	5¼	+ ⅛
5¾	1¾	8¾	1⅛	N.P.	Gilliland v.t.c.....	1,300	1⅜	1⅜	1¼	1¼	— ¼
67⅜	56	94½	63½	$25	Gulf Oil Corp.....	5,100	90⅞	91½	89⅛	91½	+ ½
7	1⅛	5⅞	2¼	N.P.	Kirby Petroleum...	1,200	2¾	3⅛	2½	2¾	+ ¼
6¾	2⅛	11⅞	4⅛	N.P.	Lago Petroleum....	22,700	11⅝	*11⅞	11⅛	11⅝	0
.....	.....	25⅞	18	N.P.	Lion Oil Refining...	300	24¼	24¼	24	24	— ¼
4⅞	4	4⅞	1¾	N.P.	Marland of Mexico.	.....	.....	.....	.....	.....	.....
1¾	.50	5¾	.56	$10	Mexican-Panuco...	22,200	4⅜	* 4⅞	4	4⅞	+ ⅝
1⅝	.97	2	1	1	Mountain & Gulf...	700	1¾	1¾	1⅝	1⅝	— ⅛
20¾	16	26¼	18⅜	10	Mountain Prod....	13,300	24	24⅞	24	24¼	+ ⅛
6¾	3½	6¾	3⅝	5	New Bradford Oil..	3,400	6⅛	6⅜	6⅛	6¼	+ ⅛
44	17	8⅞	4¾	10	New England Fuel..	200	5	5	5	5	0
.....	.....	19¾	6¼	1	New Mex. & Ariz...	12,200	14¾	15	13	13½	—1
14	8⅛	12½	8¼	25	New York Oil.....	1,300	12¾	14⅞	12¾	14½	+1¼
.....	.....	37	23¾	N.P.	Pan-Amer. Western.	.....	.....	.....	.....	.....	.....
6	.70	2½	.90	N.P.	Peer Oil Corp.....	8,100	2⅜	2½	2¼	2½	0
18¼	12¼	28¼	16	$10	Pennok Oil.....	300	21⅞	21⅞	21¾	21¾	+ ⅝
57¾	5¾	44½	16	25	Red Bank Oil.....	1,200	17⅛	20¾	17⅛	20¾	+3½
.....	.....	33½	9	N.P.	Reiter-Foster.....	1,700	15	16⅜	14½	16⅜	+ ⅞
5½	3	9½	3½	N.P.	Ryan Consolidated.	200	6¼	7	6¼	7	+ ¾
10¾	6	9¾	6⅛	$10	Salt Creek Cons....	5,700	9¼	9⅜	9¼	9¾	+ ¼
27½	19⅛	35	24	10	Salt Creek Prod....	6,500	32¼	32½	31½	32	— ¼
3¾	1½	3⅞	1	5	Savoy Oil.....	.....	.....	.....	.....	.....	.....
.....	.....	46½	33¾	N.P.	Sun Oil.....	.....	.....	.....	.....	.....	.....
16¼	6¼	13¾	9	10	Tidal Osage.....	800	9	10	9½	10	+1
4⅜	2⅝	6⅜	1¾	5	Venezuelan Pet....	61,100	6⅜	* 6⅜	5⅞	6	— ⅜
.....	.....	31¼	22½	N.P.	Wilcox O. & G. new.	1,000	26	*1 26	25½	25¾	— ⅛
13⅞	4¾	7	3⅞	N.P.	Woodley Petroleum.	500	5¾	5¾	5¼	5¼	— ½

Pittsburgh Stock Exchange

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended Jan. 29 Sales	First	High	Low	Last	Ch'ge
8¼	5¼	7	6	$10	Arkansas Nat. Gas..	5,420	6¼	6⅜	†6	6⅛	— ¼
73¼	69¼	.....	.....	N.P.	Columbia Gas.....	.....	.....	.....	.....	.....	.....
21½	21½	.....	.....	50	Consolidate Gas pfd.	.....	.....	.....	.....	.....	.....
18	14½	17	16	$10	Devonian Oil.....	162	16¾	16⅜	†16	16	— ½
112⅝	105¾	113	112¾	$100	†DuquesneLt.7s pfd.	10	113	*113	113	113	+ ⅜
95	90	.....	.....	100	Fayette County Gas.	.....	.....	.....	.....	.....	.....
55	32½	56½	51¾	25	Lone Star Gas.....	6,250	56½	56½	54¼	56	— ½
7	3¾	6½	6	....	do Rights.....	.....	.....	.....	.....	.....	.....
37¼	31	36½	35	25	Ohio Fuel Corp.....	5,200	35¾	35⅞	†35	35¼	— ½
34	26	34	31½	25	Oklahoma Nat. Gas.	5,670	33	33⅛	†31½	31½	—1¼
8¾	5	5¾	5¼	5	Pittsburgh O. & G...	200	5¼	5¼	†5¼	5¼	.....
9⅝	6	9½	9	10	Salt Creek Cons.....	2,107	9¼	9½	9	9	0
13¾	8½	10	10	10	Tidal Osage.....	410	10	10	10	10	.....

Pittsburgh Curb Market

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended Jan. 29 Sales	First	High	Low	Last	Ch'ge
20	18½	.....	.....	....	Central Ky. Gas....	.....	.....	.....	.....	.....	.....
2½	.60	3⅜	2¾	$ 5	Colombia Synd.....	300	3	3	3	3	+ ¼
.60	.15	.....	.....	5	Duquesne Oil.....	.....	.....	.....	.....	.....	.....
9	5¼	.....	.....	10	Forest Oil.....	.....	.....	.....	.....	.....	.....
92¾	64	91½	90	25	Gulf Oil Corp.....	.....	.....	.....	.....	.....	.....
.....	.....	9	6½	....	Houston Gulf Gas..	2,150	8¾	10	8¾	9¾	+ ⅞
12½	8¼	11⅛	9⅝	N.P.	Leonard Oil & Dvlp.	300	9¾	9¾	9½	9½	— ⅛
2¾	1⅜	.....	.....	1	Oklahoma Eastern..	.....	.....	.....	.....	.....	.....
¾	⅜	.....	.....	....	Okla. Eastern rts...	.....	.....	.....	.....	.....	.....
1⅞	1⅞	.....	.....	....	Okla. Eastern ex-rts.	.....	.....	.....	.....	.....	.....
.47	.20	.....	.....	10	Omar O. & G.....	.....	.....	.....	.....	.....	.....
27½	25	33	27	10	Plymouth Oil.....	1,100	30	30½	30	30	+ ¼
7	3	4	3	5	States Oil.....	.....	.....	.....	.....	.....	.....
4	1⅞	3	2⅝	$ 1	Texon Oil & Land...	6,700	2⅞	3	2⅞	2⅞	0
11	9	9½	9½	10	Tidal Osage.....	.....	.....	.....	.....	.....	.....

*New High †New Low xEx-Dividend

Collect Back Statistics on Pacific Stocks

CLEVELAND, Jan. 30.—The Bureau of Mines San Francisco office has compiled statistics of stocks of crude oil and products held on the Pacific coast within and outside the United States, including Alaska and Hawaii, for the last seven months of 1923 and all of 1924. Stocks for all of the aforementioned territory at the end of the first four months of 1925 were published last May and for succeeding months in the regular monthly reports.

The figures for 1924 and part of 1923 were compiled by J. W. Mashaw, division of mineral resources and statistics of the bureau whose office is at 506 Custom House, San Francisco.

The statistics cover the stocks of 37 refining companies operating 56 refineries with a daily capacity of 660,820 barrels at the end of 1924. The total refining capacity of California plants at that time was 682,420 barrels, but the plants with the 21,600 barrels' capacity were operating only part time and the report is considered 99 per cent complete.

Financial Notes

New York Transit Co.—All directors and officers re-elected at annual meeting.

North Pipe Line Co.—J. H. Peper elected a director to succeed L. A. Nash. Other directors re-elected. All officers re-elected.

Standard Oil Co. of California.—Certificate of incorporation with capitalization of 15,000,000 no par shares, filed in Delaware. This is a step in the merger of the Standard of California and the Pacific Oil Co.

Middle States Oil Corp. — Joseph Glass of the law firm of Olcott, Olcott & Glass, New York, appointed co-receiver for the vacancy caused by the death of Julius M. Mayer. Joseph P. Tumulty, who was secretary to President Wilson, is the other receiver. It is said plans are being made for the re-organization of the company.

Cleveland Stock Market

	Par	Jan. 29 Bid	Asked	Last Sale
Canfield Oil Co	$100	108½	.....	115
do pfd	100	.....	.....	100
Fred G Clark Co	10	3¼	4⅛	5
National Refin. Co	25	38	42	41
do pfd	100	.....	135	129½
Paragon Refin. Co	25	7¼	8½	8¼
do pfd	100	60	67½	65

Ex-x dividend

The Oil Industry Exchange

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Sales Executive; familiar with Tank and Service Station operation, twelve years experience, 32, married, college education, good health, good appearance, successful record, temperate, furnish best references. Available now. Box 517.

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If you have, National Petroleum News can put you in touch with buyers. Look over your old equipment, jot down what you don't need and send in a little "For Sale" advertisement.

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Miscellaneous

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